MECCANO® Magazine

30p

QUARTERLY

Vol.60 No.2 MECCANO MAGAZINE FOUNDED 1916 April 1975

BAD NEWS

BAD NEWS is something which nobody likes to impart – least of all, me – but it is my sad duty, now, to advise all readers that the price of the MMQ is going up, with immediate effect.

As you know, the Magazine is produced on a break-even basis, which means that the revenue we receive from subscriptions and advertising is just sufficient to cover the costs involved in publishing and circulating the Magazine. We do not ourselves make any profit from it. The problem with this arrangement, of course, is that, if costs rise, we have no profit margin to help absorb the rises and so must either increase our price to pay for the higher costs, or reduce the size and content of the Magazine – or make a loss. Obviously we cannot make a loss without jeopardising the future of the Magazine and, to reduce its size and content would be an equally undesirable retrograde step. Thus we have only one sensible alternative, namely to increase the price.

This, as I say, is the only realistic solution if costs rise – and I regret to say that costs have risen, noticeably, since our last price increase, announced in the January 1974 issue. Indeed, to give just one example, the British Post Office, in its wisdom, has recently seen fit to increase the basic inland letter charge by a massive 66% or more! Added to this our paper costs have increased by 100%, the artwork and plate-making charges by some 16% and the binding and finishing costs by 36%. You will see, therefore, that your Magazine is now costing a lot more to produce than at the beginning of last year!

The nett result of all this is that, in order to face the coming year with confidence, we are having to increase the basic U.K. and Surface Mail Subscription Rate from 90p. per year to £1.20, with an appropriate increase in Air Mail Rates. We hate to do this, but it is unfortunately necessary to ensure the continuance of the MMQ. The new rates will come into effect immediately for all new subscriptions and renewals, although, of course, existing subscriptions will be completed at the old rate.

We hope you will understand the need for the increases and that we may count on your continued support. Don't forget, the MMQ is *your* Magazine!

GOOD NEWS

GOOD NEWS is something which I most certainly do like to impart and for this reason I am delighted to report on the appearance in March of the new quarterly magazine, the "Meccano Engineer", published by M.W. Publications of Henley-on-Thames, Oxfordshire.

Actually, it is not strictly true to refer to the ME as 'new' in the complete sense, as the magazine is in fact a continuation of MW's earlier publication, the "Junior Meccano Engineer", but it is certainly 'new' in that the ME is now a superb publication for Meccano hobbyists of *all* ages. Excellently produced, fully-illustrated and professionally printed on glossy art paper, the first issue (actually numbered 7 because of the six previous issues of the JME) is a 40-page goldmine of Meccano interest. There is something for everyone: young and old, constructor, collector and historian alike – and it all makes very absorbing reading. The ample illustrations are clearly reproduced and the feature pages are layed out with great flair and imagination. Indeed, the entire magazine is outstandingly good and reflects great credit on its Editor, our good friend Mike Nicholls, assisted by Paul Smith.

We on the MMQ would like to offer our own sincere congratulations to Mike and Paul – and to everybody connected with the "Meccano Engineer". We welcome its appearance as a first-class independent Magazine, devoted to the Meccano hobby, and we wish it a long and successful future.

The Editor

EDITORIAL DIRECTOR: J.D. McHard

EDITOR: C. J. Jelley

ASSISTANT EDITOR: M. K. Peddie

PUBLISHED FOUR TIMES PER YEAR IN JANUARY, APRIL, JULY AND OCTOBER

CONTENTS

30. Flotilla Leader and Escort.
34. Meccano Miscellany.
36. Past Masters, Part 2.
39. Mechanical Duster.
40. Collectors' Corner.
42. Dinky Toys News.
44. Easter Meccanograph.
47. Prima by Meccano.
48. Meccano Club Roundup.
50. Among the Model-builders.

TWO FOR THE PRICE OF ONE.....

Fig.1

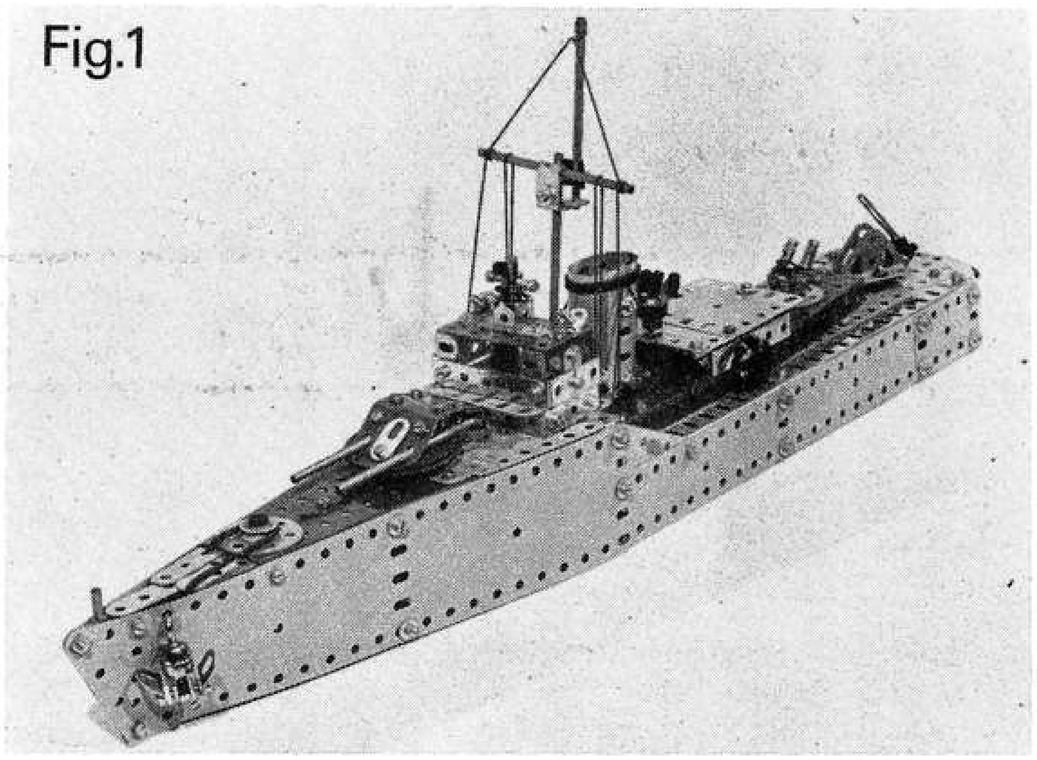
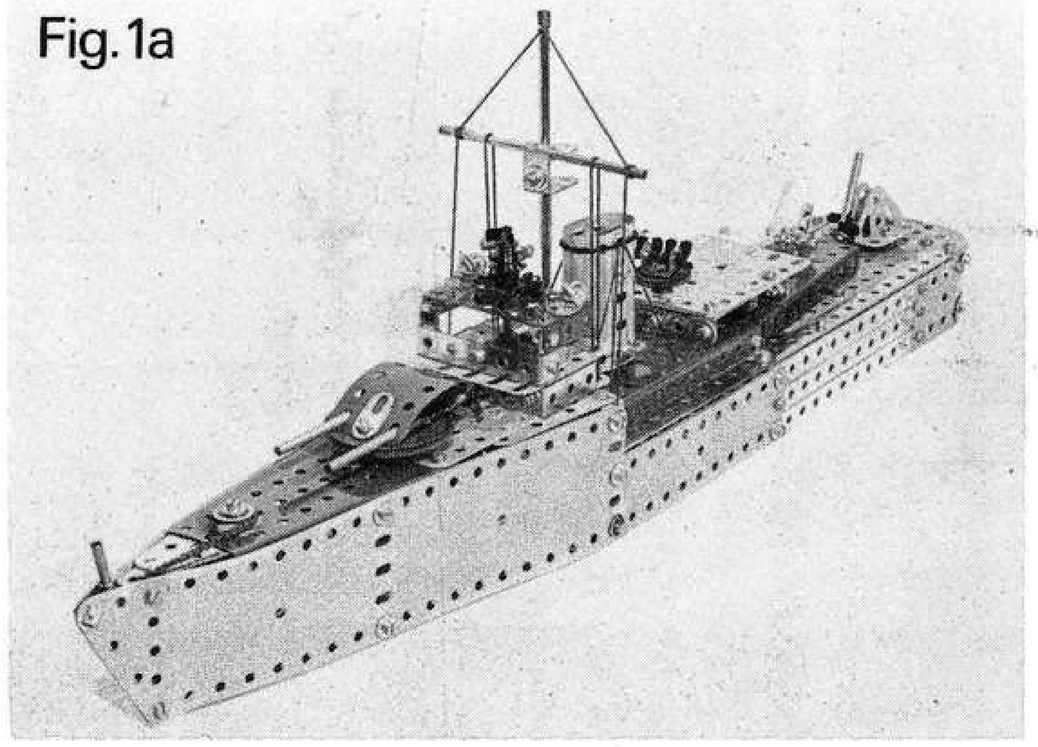


Fig.1a



FLOTILLA LEADER AND ESCORT

Two realistic Outfit models built and described by B.N. Love

ASK ANY skilled MECCANO constructor and he will tell you that you don't need giant Meccano outfits to build first-class models. All the secrets lie in being able to exploit the parts in a given Set to the full. This pair of ships are made from two of the most popular Meccano Sets in the series and are presented here so that brothers or school friends owning Set Nos. 6 or 5 can make up the Flotilla Leader and its Escort. We will start with the Leader which is made from the No. 6 Set.

FLOTILLA LEADER HULL

Fig. 1 shows the general arrangements and construction begins by taking a pair of 12½" Girders and spacing them by a 5½" x 2½" Flanged Plate secured to the slotted holes of the Girder by ½" Angle Brackets fore and aft. A 4½" x 2½" Flexible Plate is lapped two holes under a 4½" x 2½" Flat Plate to form the quarter deck and this is secured to the Angle Girders by Fishplates from below at the forward end and by two 2½" Semi-circular Plates at the stern. These are clearly shown in Fig. 4. The forewardmost holes of the Girders, coincide with the forward end of the Flanged Plate.

Side hull plating may now be attached to the midships and stern sections. Lying snugly in the gap of the two Semi-circular Plates is a 2½" x ½" Double Angle Strip, the rear end of which provides an anchorage for the centre top hole of a 5½" x 1½" Flexible Plate which forms the rounded stern. Either end of this Plate is trapped by the slotted holes of a 2½" x 1½" Flexible Plate forming the first side panel at the stern. Note the use of Washers under boltheads at this stage. Two 5½" x 1½" Flexible Plates continue the midships section and they make use of the two 2½" x 1½" Triangular Flexible Plates to give the rise in freeboard up to the bow section. As there are only four 5½" x 1½" Flexible Plates in the No. 6 Set and one of these is used for the curved stern, the starboard side plating has a compound plate for replacing the first 5½" Plate and is made up of two 2½" x 1½" Flexible Plates lapped one hole on to a vertically-mounted Flat Trunnion.

Two more 12½" Girders brace the bottom edges of the side plating and these can be seen in Fig. 3 which also shows the two 3½" bracing Strips placed across the Girders three holes in from the stern and eight holes in from the forward end. Continue with the bow plating shown in Fig. 2 which comprises two 5½" x 2½" Flexible Plates on each side, brought to a tapered point by a pair of 2½" x 1½" Triangular Flexible Plates. A Right-angled Rod and Strip Connector is held in the front upper hole at the bow and carries 1" Rod as a jackstaff.

FO'C'SLE AND 'A' TURRET

In the top centre hole of the first 5½" x 2½" Plate a Bolt secures a Flanged Sector Plate at its forward hole and additional support is given six holes further back at the overlap of the bow plates as seen in Fig.2. Five

..A No.5 MODEL & A No.6 MODEL

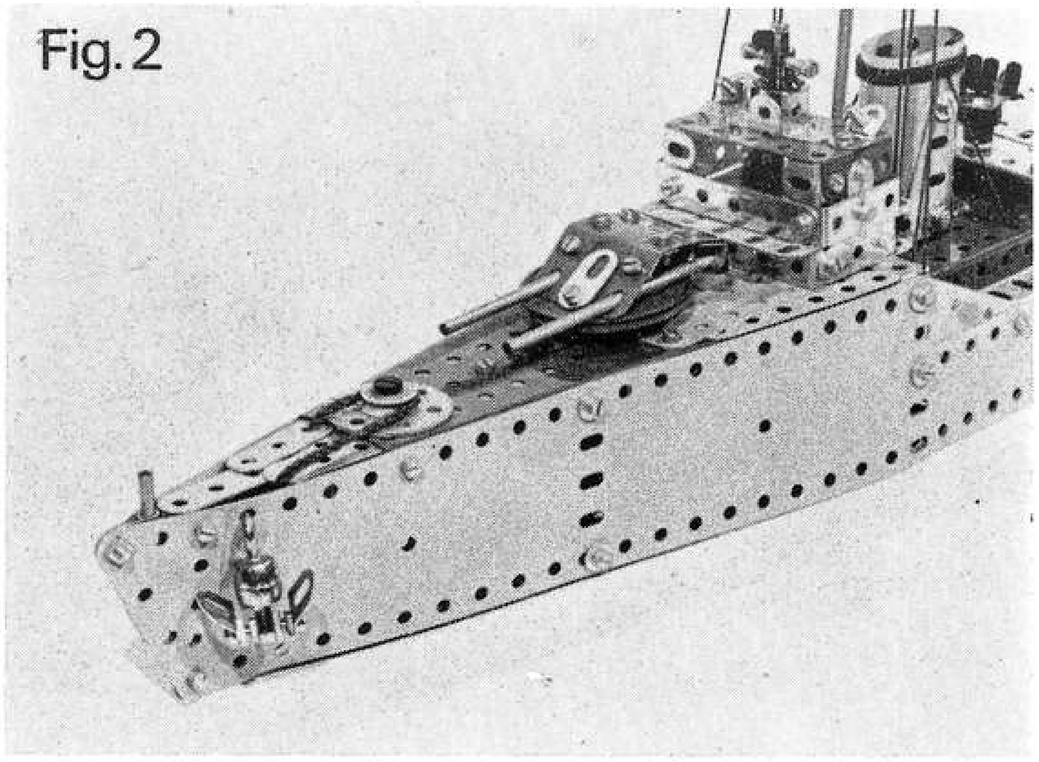


Fig. 2

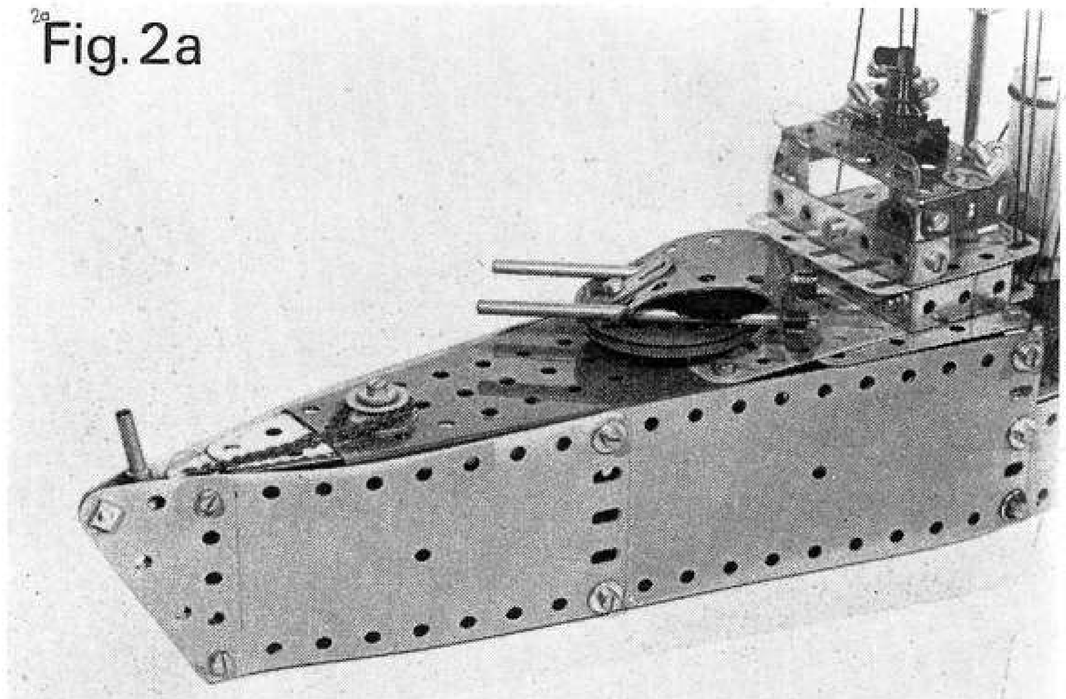


Fig. 2a

Opposite page, Figs. 1 and 1a, general views of the Flotilla Leader (left), built from a No. 6 Set, and Escort (right), built from a No. 5 Set. Above, Figs. 2 and 2a, Fo'c'sle views showing slightly longer bow of Leader (left) and simpler 'A' turret construction on Escort (right).

holes back in the top centre line of the Sector Plate, a 3/8" Bolt holds a 5½" Strip underneath, plus a 1" loose Pulley. This, in turn, traps a pair of 5½" Strips which project forward to complete the forward end of the fo'c'sle deck. This same 3/8" Bolt carries a ½" Double Bracket before the Nut is secured. About ½ metre of Meccano Cord is simply plaited to form the ship's "cable" and this runs round a cable holder made of a ½" Plastic Pulley running on a 6-hole Wheel Disc secured by a Pivot Bolt which carries the centre line 5½" Strip below and a 1" loose Pulley to give a second trap for the other two 5½" Strips already mentioned. An anchor is made from the Crane Hook and two ½" Obtuse Angle Brackets secured to the Hook hole by a ¾" Bolt and lock-nuts.

"A" turret on the Flotilla Leader has a "rivetted" turret sporting Nuts and Bolts carrying two Obtuse Angle Brackets at the first angle of the turret roof and ½" Brackets at the rear. Two Fishplates form the back of the turret as seen in Fig. 5, where they trap the pair of 3½" Rods forming the gun barrels. A single ½" Bolt locks the turret to the 2" Pulley Wheel mounted on a 2" Rod. After decking of the fo'c'sle a 4½" x 2½" Flat Plate is bolted directly to the rear end of the Sector Plate and supported at the rear of the bow plating by a pair of 1" x ½" Angle Brackets. Two 2½" x 2" Flexible Triangular Plates are attached by a single Bolt each under the Flat Plate to complete the fo'c'sle decking. Where the Flat Plate meets the Sector Plate the turret Rod is passed through the centre line and rides on a ¾" Washer.

BRIDGE AND MAST

Fig. 5 shows the bridge construction clearly and this comprises a free-mounted base of a pair of 2½" x ½" Double Angle Strips joined by a pair of 1½" Strips as shown. A 3" Screwed Rod runs centrally through the bridge structure and is lock-nutted to the 4½" x 2½" Flat Plate with approximately 1 1/8" of the Rod below the Plate. A pair of 2½" x 2½" Flexible Plates form the signals platform, centralised with the lock-nuts on the Screwed Rod to sandwich the free-mounted bridge base. Two 1½" x ½" Double Angle Strips are joined by a pair of 2½" Strips, the forward one of which traps a 2½" x 1½" Transparent Plate to form the bridge weather shield. The top of the bridge structure is a 2½" x 1½" Flanged Plate secured to the middle bridge section by outside Fishplates and carrying two ½" Angle Brackets in front. This Plate is lock-nutted to the Screwed Rod, but carries a ½" Double Bracket, and the bridge "pom-poms" are ½" Bolts in Obtuse Angle Brackets port and starboard of the bridge top. A ¾" Bolt carries a Spring Clip to represent the navigation radar aerial, the Bolt passing through a ½" fixed Pulley, fitted with 3/8" Bolts for the range-finder, into a Double Bent Strip →

Fig. 3, an underneath view of the Flotilla Leader showing Girder bracing of after part of the ship.

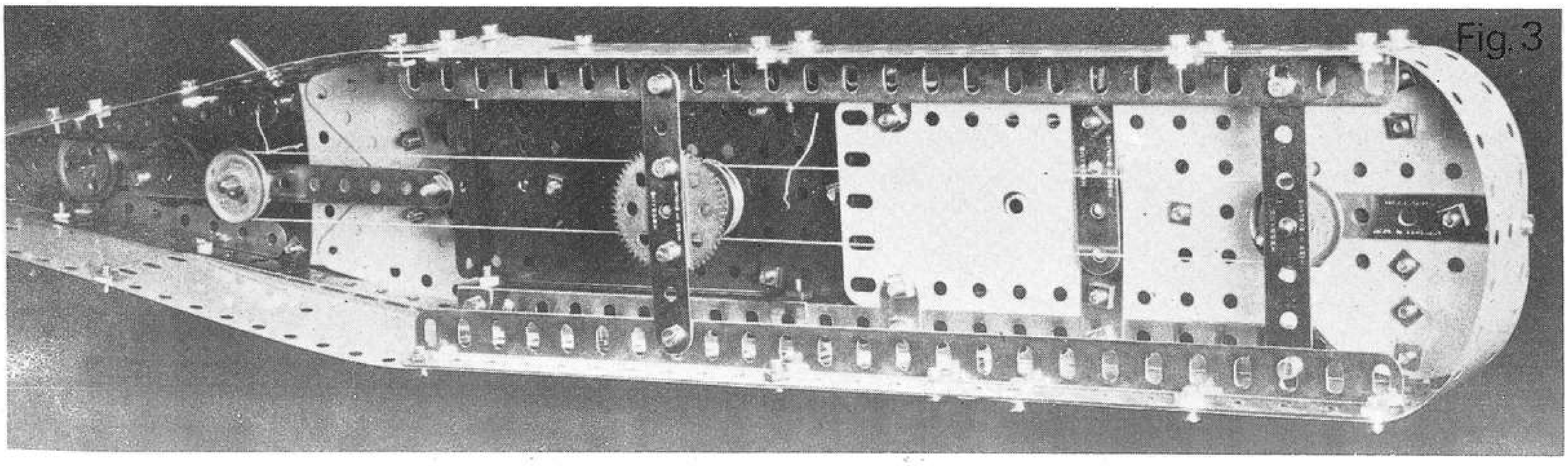


Fig. 3

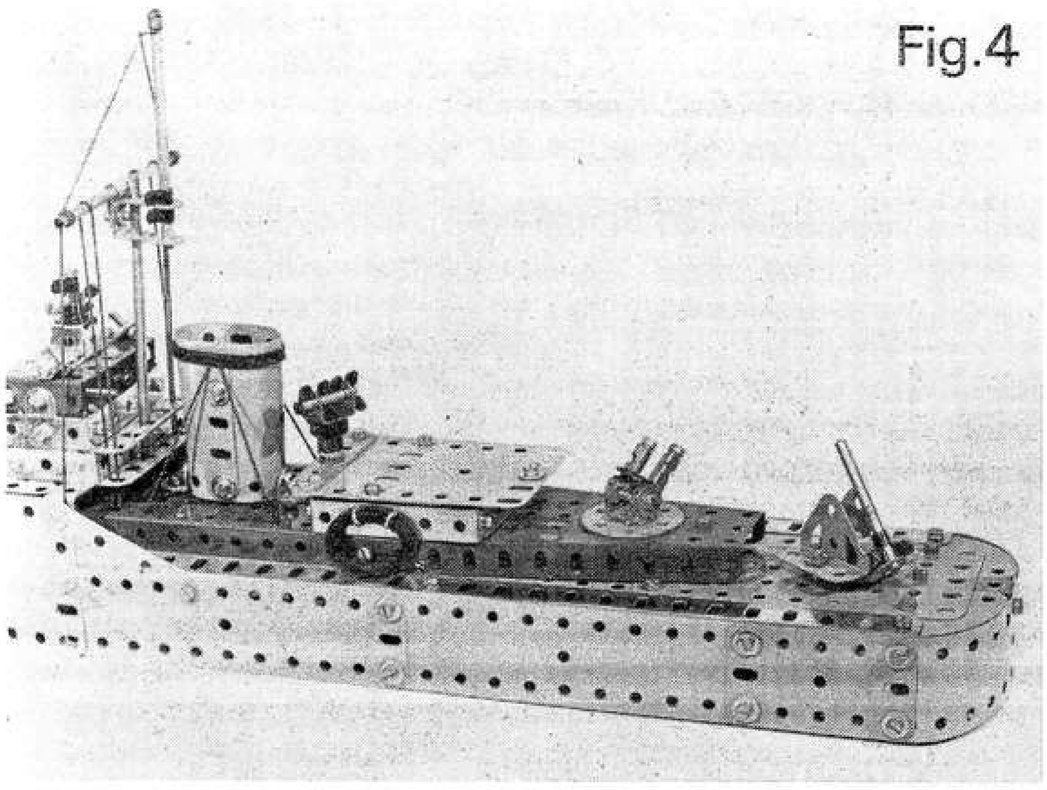


Fig.4

A stern view of the Flotilla Leader showing the guided missile launchers astern and the weapons control radar set on the forward end of the helicopter platform. Between them is the anti-submarine mortar.

bolted to the bridge top to represent the wireless cabin.

Fitted into a Bush Wheel bolted to the forward end of the 5½" x 2½" Flanged Plate is a 5" Rod forming the first section of the mast. A 3½" Rod forms the yard arm carried in a Right-angle Rod and Strip Connector, the securing Nut and Bolt of which bears against the 5" Rod to hold the 1" x ½" Double Bracket which carries the final section of the mast – another 3½" Rod. Spring Clips locate the upper mast section. When securing the Bush Wheel at the base of the mast, the funnel, made from one 'U' shaped 2½" x 2½" Plate and one Curved 2½" x 2½" Plate formed to shape, is attached by an Angle Bracket to the rear Bolt of the Bush Wheel and the after end of the funnel is attached by a second Angle Bracket to the Flanged Plate. This gives a neat 'rake' to the funnel. As our ship is a Flotilla Leader she gets a broad black line round her funnel comprised of a single 2½" Driving Band and a 6" Driving Band with a single twist in it.

Rigging for both ships is as follows: take a fresh hank of Meccano cord and trap one end in the ship's plating as shown in Fig. 5.. Now make the first mast stay with a clove hitch round the end of the yard arm and pass the Cord through the eye of a Cord Anchoring Spring at the mast-head. Make another clove hitch on the far side of the yard arm, down to the side plating for trapping at that point, on under the deck and back up through the holes in the signals deck to make signal haliards up and over the yard arm each side, as shown. Continue back up through the Flanged Plate as seen in Fig. 5 to make funnel stays by crossing over inside the top of the funnel and finally secure it below decks towards the stern so that slack rigging can be tightened up after a period of display.

HELICOPTER DECK AND GUIDED MISSILE

Extension of the midships decking is by means of a Sector Plate attached to the 5½" Flanged Plate by a Fish-plate and secured to the quarterdeck plating by a Reversed Angle Bracket set one hole in from the rear of the Sector Plate. Before so doing, the twin-barreled anti-submarine mortar is made from a pair of Rod and Strip Connectors bolted to a ½" Double Bracket. A ½" Angle Bracket passes under the Double Bracket and carries an Obtuse Angle Bracket as a flash shield. The whole is carried on a Bolt passing through a 6-hole Wheel Disc and lock-nutted under the Sector Plate. Support for the helicopter deck is by a pair of 2½" x ½" Double Angle Strips joined by a 2½" Strip at the rear and secured to the decking by Reversed Angle Brackets at the forward end. The upper lugs of these Brackets secure the forward end of the helicopter deck and a double thickness of 2½" Strips forming the bearing for the missile control radar scanner. This scanner is a ½" Double Bracket carrying four Spring Clips on a 1" Rod and lock-nutted to the top of a 3" Screwed Rod over a ½" Pinion. This Pinion is firmly attached to the Screwed Rod by a lock-nut and Washer below it and the Threaded Rod passes through the decking where it carries two 1" fixed Pulleys, back to back and lock-nutted to the Screwed Rod, the tip of the Screwed Rod bearing in a 57-teeth Gear Wheel bolted below decks as shown in Fig. 3. The rear end of the helicopter deck, a 2½" square Flexible Plate, is attached to another Reversed Angle Bracket which is in turn bolted to the Sector Plate. A very simple guided weapon "Sea Slug" missile launcher is made from a pair of Trunnions on an 8-hole Bush Wheel which also carries an Obtuse Angle Bracket as a rocket support. Two Spring Clips arranged, as shown in Fig. 4, on a 1½" Rod complete the weapon installation.

Finally, it only remains to couple up the armament to the radar control scanner and this is done by Pulleys and Cord from below. One last bearing element is required and this is a 5½" Strip running from the Double Bracket below the Sector Plate on the fo'c'sle deck to the por-

Mid-ships views of the Leader (left) and Escort (right). Note simpler bridge construction and one funnel band on Escort.

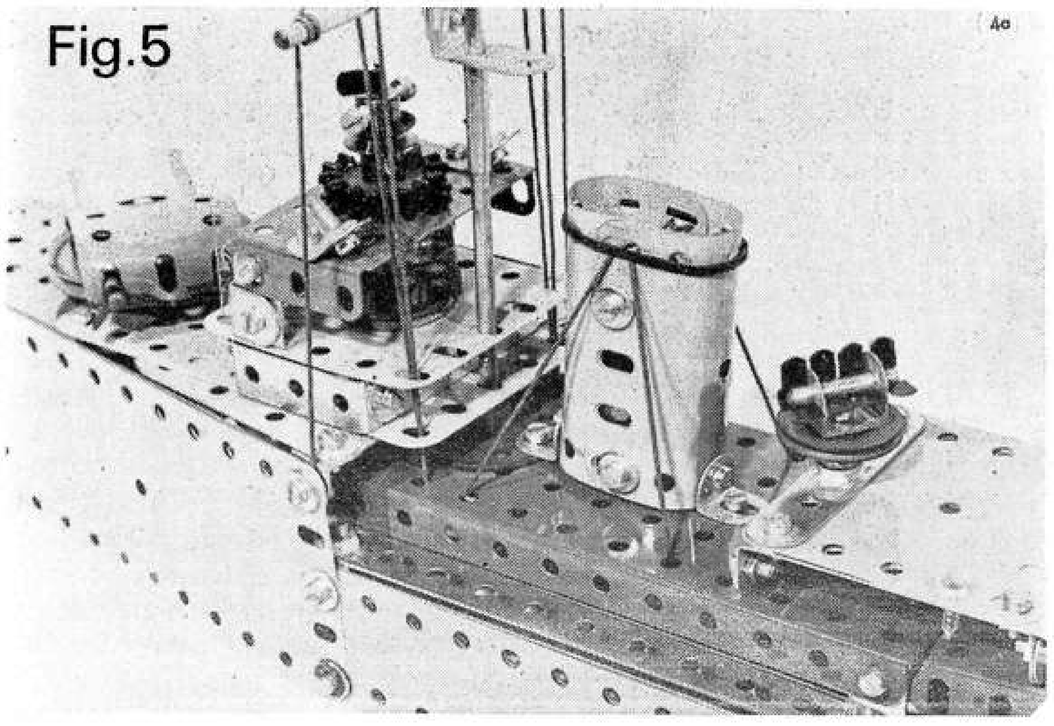


Fig.5

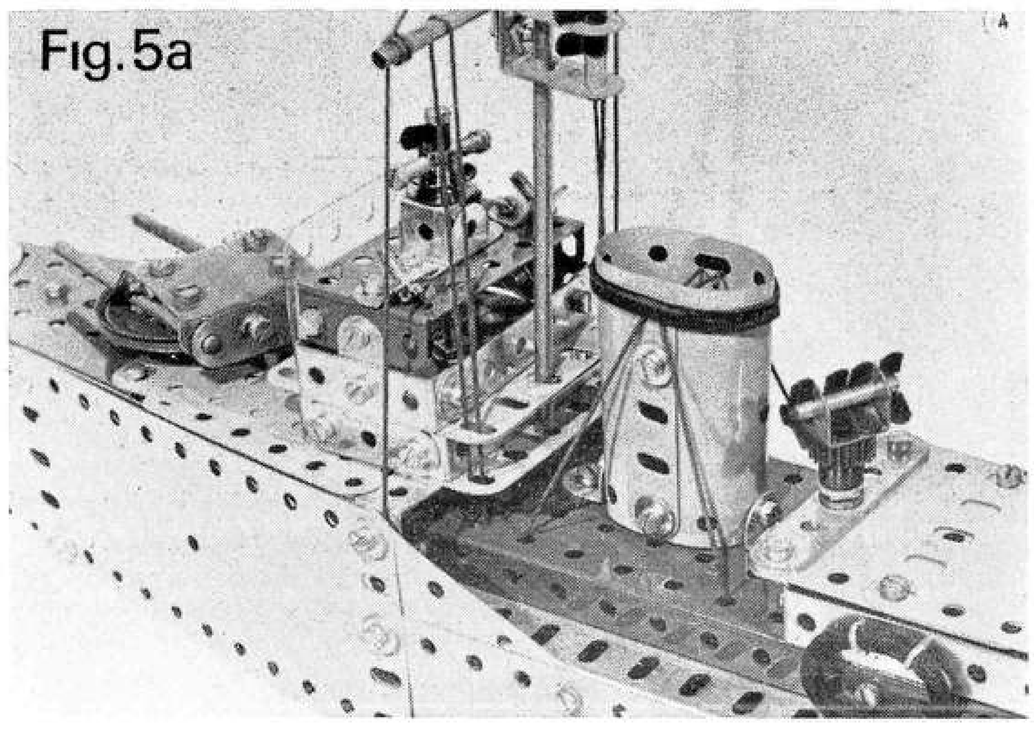


Fig.5a

tion of the Threaded Rod protuding below decks from the bridge structure. 'A' turret is carried on a 2" Rod fitted with a 1" fixed Pulley as shown in Fig. 3. Meccano Cord may be used for connecting up the pulley system by knotting, but it is simpler and more effective to use elasticated sewing thread (shirring elastic). Make sure that the Rods of the turret, radar scanner and guided missile turn quiet freely before connecting up. If the job has been done properly, as the radar scanner is rotated by hand both the gun turret and the guided missile will track "on target" with a slight dwell before 'locking on'. Note that the 57-teeth Gear below does not revolve. It just acts as a smooth bearing for the lower end of the Threaded Rod.

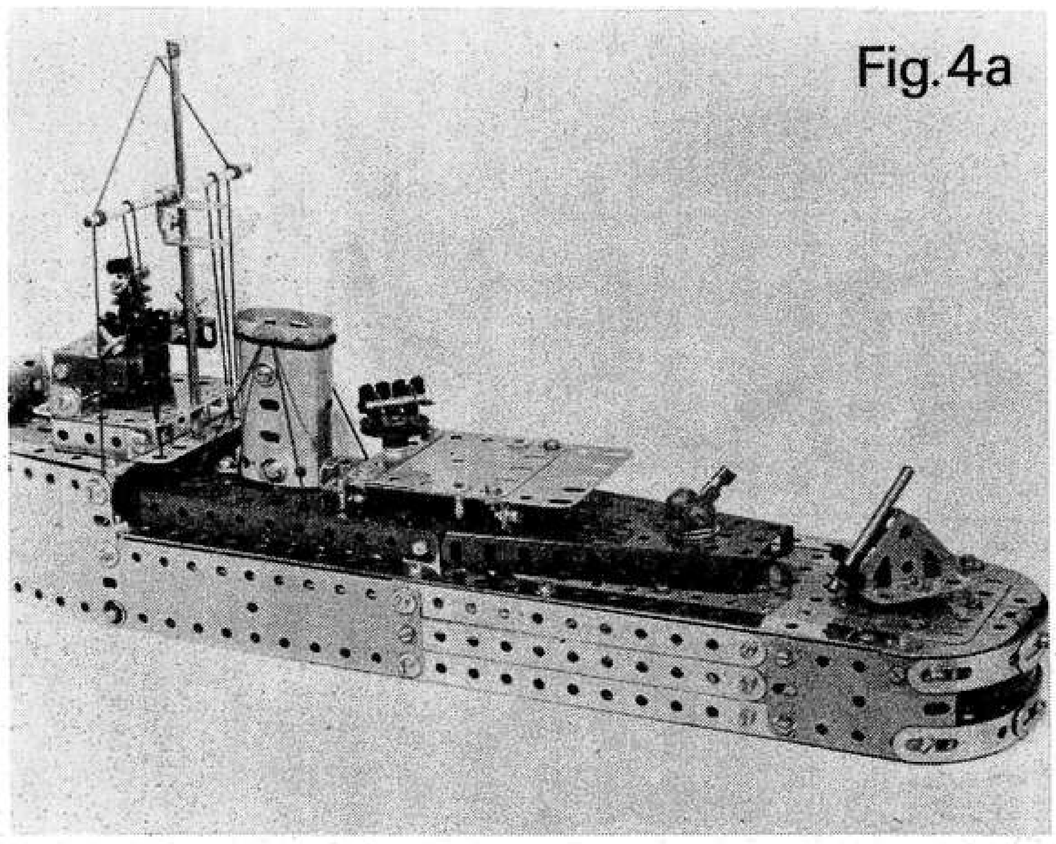


Fig.4a

A stern view of the Escort vessel as built with a No. 5 Meccano Set. If compared with the Leader, opposite it will be seen that the anti-submarine mortar and weapons control radar set on the Escort are of simpler design.

BUILDING THE ESCORT

Many of the features on the Escort are similar, if not identical, to those on the Flotilla Leader, but with the more limited range of parts in the No. 5 Set, from which the Escort is made, we have to make certain compromises. A lesser number of Flexible Plates means that we have to use some Strips in place of hull plating and these are shown in Fig. 4a. With only two 5½" x 1½" Flexible Plates these are used for the midships side plating and are extended by 5½" Strips which lap a Flat Trunnion in its vertical row of centre holes before linking up with the 2½" x 1½" Flexible Plates forming the stern side Plates. One Plastic Flexible Plate is available for the stern and this is held in place by Formed Slotted Strips to give, once again, a rounded stern. No Girders are available so the 12½" Strips are used as the bottom 'rail' of the side plating and for the deck walk, the upper 12½" Strips being attached to the rear of the 5½" Flanged Plate by Reversed Angle Brackets which also secure the rear end of the Flanged Plate to the side of the ship.

QUARTERDECK & BRIDGE

Quarterdeck plating consists of a 2½" x 2½" Flexible Plate lapped under the 4½" x 2½" Flate Plate, the rear Semi-circular Plates being attached as for the Flotilla Leader. The helicopter deck is also simpler, being made from two 2½" Double Angle Strips supporting lapped 2½" x 2½" Flexible Plates as shown in Fig. 4a. A pair of 2½" Strips are bolted at each end of the Double Angle Strips and these in turn are secured to the Flanged Plate and to the Sector Plate by ½" Angle Brackets. Plastic domed studs (used in the specimen No. 5 Set for securing Strips in the Carton) make landing lights for the helicopter platform.

Slightly different in design, the free-mounted bridge base is made from a pair of 1½" x ½" Double Angle Strips bolted to a pair of 2½" Strips. Only one 2½" x 2½" Plate is available for the signals deck and this is clamped in place by a 1" Pulley on a 4" Rod which centralises all of the bridge sections. The bridge roof is again a 2½" x 1½" Flanged Plate supported at the front only by vertical 1" x ½" Angle Brackets. These carry a 2½" x ½" Double Angle Strip athwartships to which the Transparent 2½" x 1½" Plastic Plate is secured. A circular radar cabin tops the bridgework, this being the Multi-purpose Gear Wheel, with the optical range finder and Spring Clip radar antenna as in the Flotilla Leader. The second Multi-purpose Gear secures the central Rod below deck. Mast arrangements are also very similar, but this time the 3½" Crank Handle forms the lower section. This is topped by a Rod Connector to engage a 3½" Rod for the upper mast section.

ARMAMENT

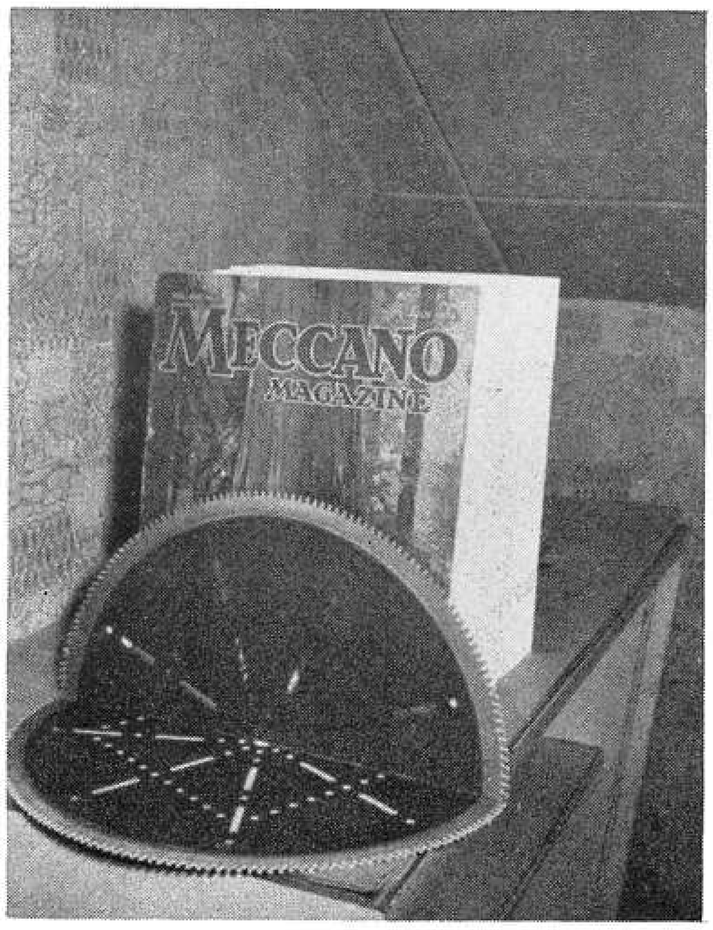
'A' turret is simpler in design as is shown in Fig. 2a. "Padding" is supplied by a 1" Motor Tyre over which the second 2½" x 1½" Plastic Plate is bent. Spring Clips secure the rear of the turret and the whole thing is once again locked to the 2" Pulley by a ½" Bolt and Nut. Fig. 4a shows the simpler fire control guided missile radar scanner comprising a 1" Fixed Pulley secured through the ½" Double Bracket by a ¾" Bolt and lock-nuts to the reinforcing 2½" Strip across the helicopter platform. A single-barreled anti-submarine mortar is made from a Rod and Strip Connector bolted to a ½" Double Bracket and this rides on a ¾" Washer fixed through to the lower deck plating by a ¾" Bolt. The guided missile launcher is identical to that of the Flotilla Leader. Bridge "pom-poms" are also identical.

GENERAL NOTES

Fo'c'sle dimensions are slightly shorter (see Fig. 2a), a 4½" x 2½" Flexible Plate being the foremost part and the extension of the forward fo'c'sle decking is by 2½" Strips, one held by the ½" cable holder Bolt and this traps the other two 2½" Strips in place. At the stern, the lower bearing for the missile launcher is a 2½" x ½" Double Angle Strip running fore and aft from the base of the rounded stern. Both this Double Angle Strip and the one above it, which forms part of the quarterdeck, are spaced slightly from the Formed Slotted Strips by a lock-nut to ease the curvature of the stern. One 3½" Strip runs across below the 2½" square Flexible Plate forming the first part of the quarterdeck thus supporting this Plate and the Sector Plate above it. The securing Bolt for the port side can be seen clearly in Fig. 4a on top of the 12½" Strip, four holes aft of the Flanged Plate.

No attempt has been made to couple the armament to the radar scanner, but no doubt some enterprising lad will be able to do this and still keep within the limit of the No. 5 Set. The forward end of the 5½" Flanged Plate appears to have no support, but the remaining 2½" Double Angle Strip is used from below and bolted to the ship's inside, projecting inwards to give support to one side of the Flanged Plate and this works quite satisfactorily.

Unfortunately we do not have itemised parts lists for these two models, but the fact that they are both constructed from specific Sets will give a good indication of the parts required to build them.



MECCANO PARTS

and How to Bend Them

or

"Another use for the Geared Roller Bearing"

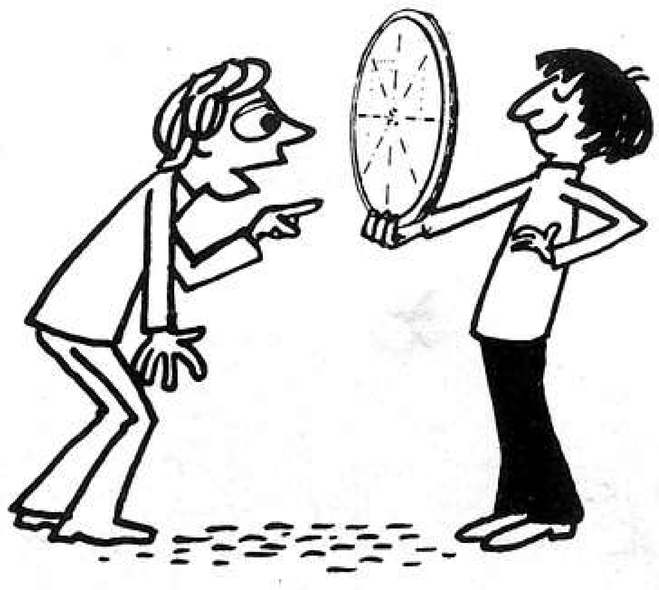
A Meccano Miscellany for April by Mike Nicholls

FOR THIS April edition of MMQ, I thought that it would make a nice change to feature a small constructional item which came to mind whilst "spring cleaning" in my Meccano outfit.

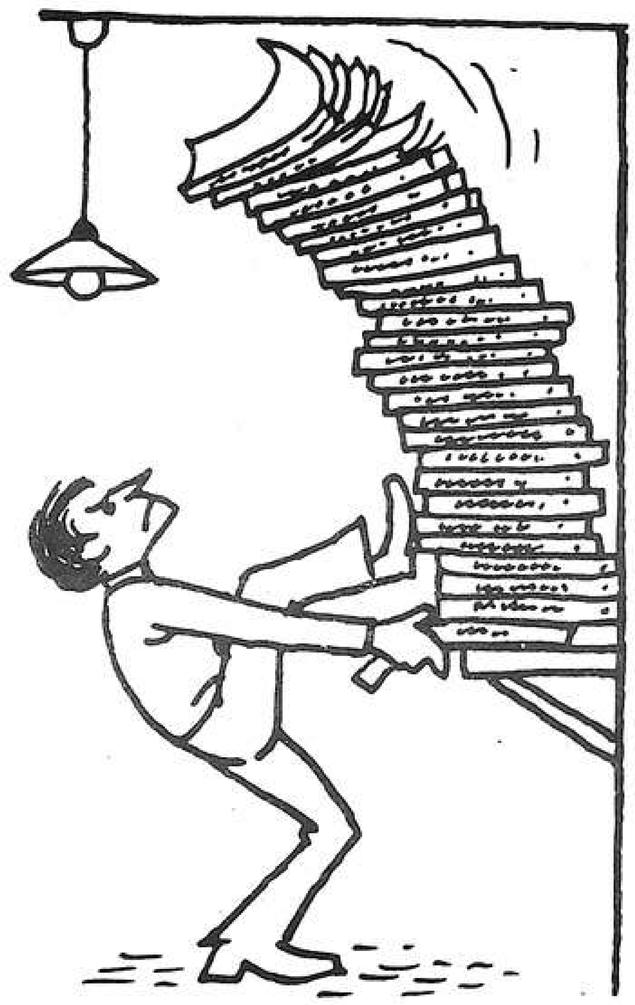
The obsolete 167 Geared Roller Bearing is a fascinating Meccano part, and is fully described in 'Collectors' Corner' in the April 1973 edition of MMQ. Unfortunately, though, the article does not mention the kind of uses to which this unit may be put – and quite rightly, too, as they seem to be of use only in large model cranes. If you have already built a large model crane, or if you have no interest in cranes at all, then the 167 could be a bit of a "white elephant" – although ideal for impressing other Meccano enthusiasts who haven't got one!

There are other uses for the G.R.B., however, and this April I am suggesting a novel use for the 167 to save it cluttering up your Meccano outfit and generally getting in the way.

Like the 167, the older copies of Meccano Magazine (the large 11" x 8¼" ones) tend to become a nuisance after



"!..to impress other enthusiasts..!"



"... always the bottom one..!"

the initial reading. If the Magazines are stored in a pile, it is always the bottom one that will be needed first; so they are best kept standing in a row. There is, however, a draw-back to this method: *gravity*. That mysterious force that makes people fall from their bicycles, keeps Australia from falling off the world, and makes Spring Clips fall into deep-pile carpets to await the vacuum cleaner which will gobble them up with a noise that makes the female of the species think that her Hoover has been hit by a torpedo; that same mysterious force, gentle reader, will act upon a neatly stacked row of MMs to make them sag like a row of plastic soldiers left out in the sunshine.

Another gravitational effect is also at play here; this effect is known in scientific circles as the "End-of-the-shelf" effect. The phenomenon starts with the wilting of

the first MM from the left; the Magazine bends over until its centre of gravity exceeds its point of support, and then it gracefully falls from the shelf into a nearby vase of flowers, causing an explosion of feathers in the budgerigar cage. All is not yet over, the first Magazine is then followed by more magazines, and a simple formula enables the number of extra magazines to be calculated, if some basic dimensions are known. This is:

$$x = (g/t) - 1.$$

Find the centre of gravity of a single magazine and measure the distance from this point to the bottom edge of the magazine. This measurement is 'g' in the formula. Now measure the thickness (t) of one magazine, divide 'g' by 't' and subtract 1 from the answer obtained, and this will be 'x', the number of magazines to follow the the first one into the vase of flowers. The 167 Geared Roller Bearing can be instrumental in preventing this effect!

Reference should be made to page 344 of Meccano Magazine for July, 1971 where "Spanner" describes a neat Bending Jig for Perforated Strips. With a little ingenuity, this device may be enlarged to accept material 12" wide. For the task I am about to describe, the Jig will have to be strengthened considerably, and a heavy-duty spring-assisted bending lever must be added. This lever may be constructed to your own design from a small quantity of parts.

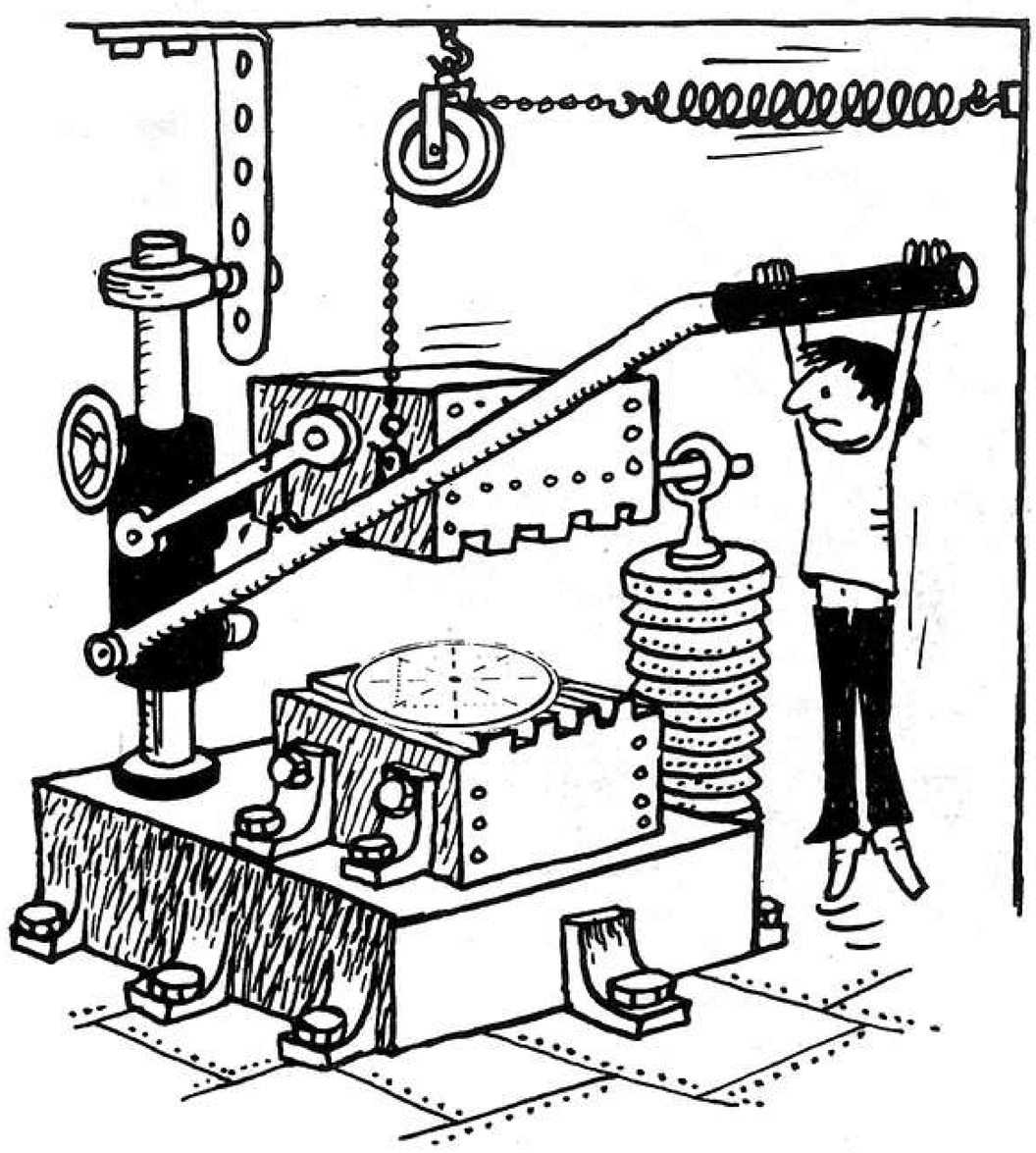
To construct the "Anti-Gravity Device", proceed as follows:

Remove the Geared Roller Races from the 167 and set them aside. Stretch a suitable skin (e.g. vellum) over the Ring Frame which supports the Pivot Bolts and

"... an interesting side effect ..."

Flanged Wheels. The resulting unit makes a first-rate tambourine for use in school orchestras, revivalist meetings, etc. (This has nothing to do with the Anti-Gravity Device, but is an interesting side-effect).

Take one of the toothed Roller Races and place it in the modified Bending Jig. Bend the part to form a neat right-angle. Care should be taken to ensure that the word "Meccano" stamped on the plate appears centrally on one of the resulting sides of the right-angle, and that the



"...the jig will have to be strengthened considerably..!"

paint does not flake during bending. The above procedure is repeated for the other Gear plate so that two right-angled parts are produced. Place one of these plates at each end of the row of Magazines so that they are pointing outwards as shown, and you will find that the Magazines will stay in place perfectly.

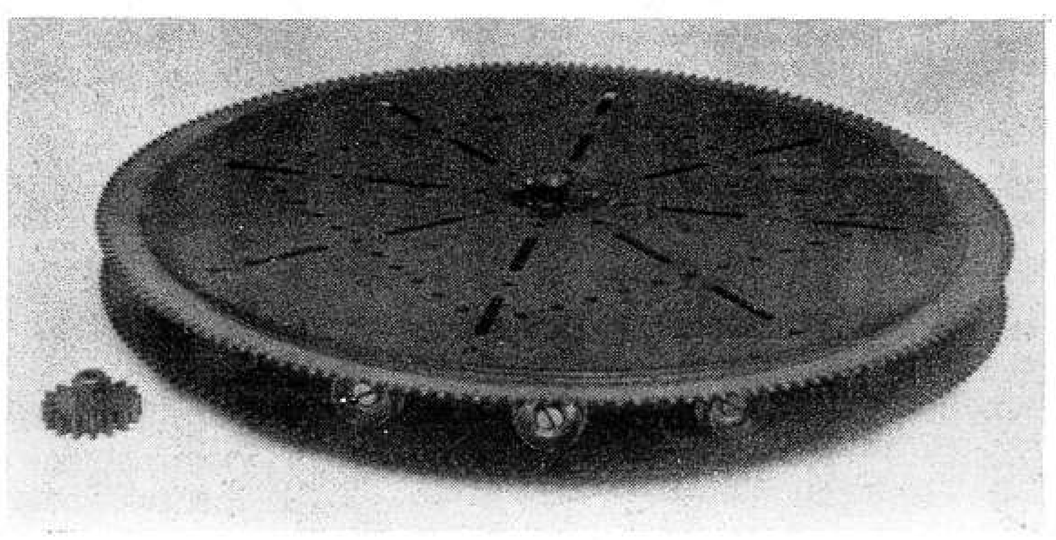
Finally, please note that an *original* Roller Bearing should be used, as the modern replica parts (although excellent in every other way) are a little too strong to be bent in the Meccano Jig described.

Well that's all for April's Meccano Miscellany; next time I shall be describing a model Dredger that uses three 167s, and 25 Digger Buckets on the dredging arm.

* * *

Editor's comment: *Knowing Mike Nicholls readers are urged to remember that the first day of April is sometimes known by another name:!*

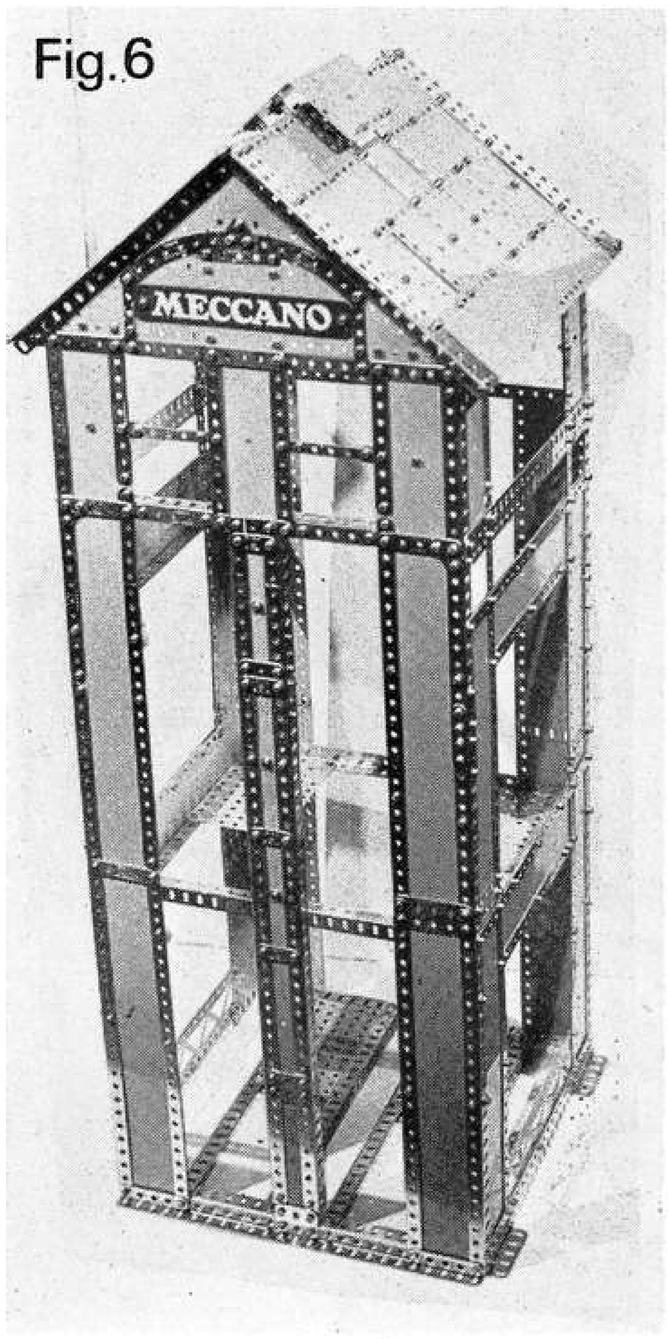
The original Geared Roller Bearing, long-since obsolete and now a highly-prized collectors' item. Mike Nicholls suggests another use for it!



GOODS WAREHOUSE with ELECTRIC ELEVATORS

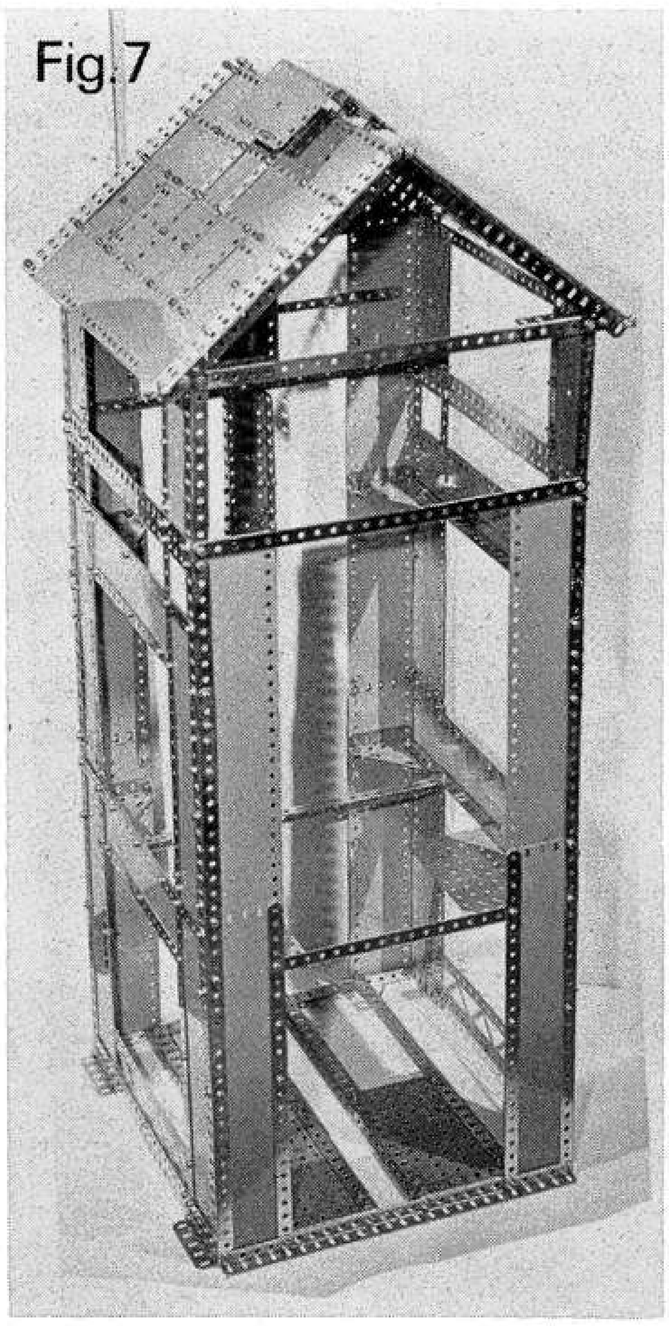
Past Masters
NUMBER FIVE
(PART 2)

Fig.6



Above and below, two views of the modified Warehouse building assembled from a current No. 10 Meccano Set. Front view above; rear below.

Fig.7



IN PART 1 of this feature, published in the last issue of the MMQ, we dealt with the general construction of the Elevator building. In this, the second and final part of the feature, we will be covering the mechanisms, but, before doing so, a brief mention of building construction for the current No.10 Set – with which this model, slightly modified, may be built – is in order.

Continuing the photograph Figure Numbers from last issue, in Fig.6 here we show what can be done with the No.10 Set and a striking improvement is achieved in the sample illustrated. This by no means limits the scope and is merely given as a guide, construction being self-evident from the illustration. Only four 12½" Strip Plates are actually used for the roof, 'fill-in' being achieved quite neatly with smaller Flexible Plates, plus the Hinged Plate to make an attractive roof ventilator. Fig. 7 shows the partially completed rear view, No.10 Set style, and shows the triangular internal bracing of the two floor levels. Adequate parts exist in the outfit to embelish the rear aspect with loading balconies and simple derrick hoists attached externally for each floor.

CAGES AND SAFETY DEVICES

But to return to the original pre-war model, we continue with construction of the cages and safety devices, *remembering that, in the following description the illustrations referred to by Figure Numbers 1 to 5 appear in the January MMQ.* One of the two similar cages is shown in Fig. 10, which is a reproduction of an illustration in the original Super Model Leaflet. The cage consists of two 3½" x 2½" Flanged Plates 20, to the flanges of which are bolted 2½" x 2½" Flat Plates 22. Single Bent Strips 21 are bolted to the sides of each cage in such positions that, when the cages are placed between the guides 7 (Fig.1 last issue) the Single Bent Strips will slide in the channels of the Guides and so form guide blocks for the cages.

The safety devices employed in the model are of a simple, yet very interesting type. They are fitted to the top of each cage and one is clearly shown in the Figs. 9 and 10. A Coupling 25 is secured to the roof of the cage by a 3/8" Bolt that is locked in position by a Nut 25a. Secured centrally in the upper transverse bore of this Coupling is a 1½" Rod that carries two Fork Pieces 24, secured one on each side of the Coupling. Two Pawls 23 are pivotally held on Bolts lock-nutted in the Fork Pieces as shown, and each Pawl has a 3/8" Bolt 23a instead of the usual Grub Screw, the Bolt being held firmly by means of a Nut screwed against the boss of the Pawl. Bolts 23a must not grip the pivots on which the Pawls are mounted.

A piece of Meccano Cord is attached to each of the Bolts 23a and the ends of the cord are brought through the Fork Pieces behind the Pawl bosses in the manner shown in the illustrations. (The two pieces of Cord are later to be attached to the

lifting Cord 27). The ends of a length of Spring Cord 26 are also attached to Bolts 23a.

When the lift cord 27 is in tension, i.e., as soon as the cage is raised from the ground, Pawls 23 are rotated slightly on their pivots and the projecting ends pulled downward clear of the lift guides. This movement bends the Spring Cord 26 so that one side of it is in tension. Now, should Cord 27 break or fail for any reason, the Pawls are no longer held down and, owing to the action of the Spring Cord, the ends of the Pawls rise and engage with the elongated holes of the Guides 7. The cage is consequently locked safely in position in the shaft and cannot be moved until the Pawls are pulled downward and clear of the Guides.

This most interesting feature of the model is closely allied in principle to the safety device usually employed on the actual lift. A demonstration of its action on the Meccano Lift should enable even the most timid old lady to overcome any fears that she may entertain as to the safety of travelling in lifts!

OPERATING MECHANISM

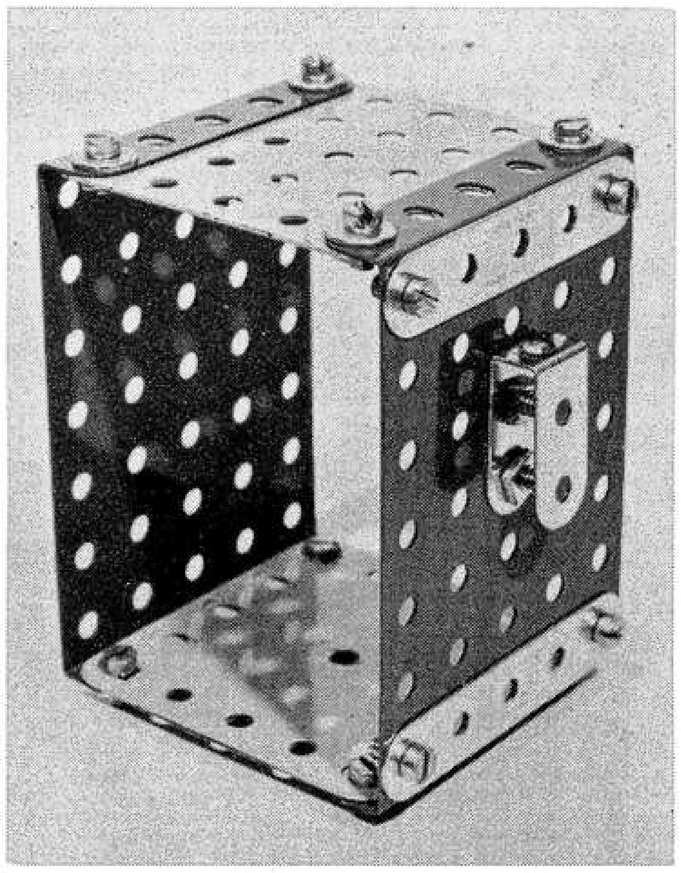
The mechanism incorporated in a model for lifting and lowering the two cages is of special interest as it enables the model to be worked for an indefinite period without attention. It is entirely automatic in action, and the arrangement is such that one cage is raised while the other is being lowered.

In operation, as soon as the motor is set in motion, one of the cages ascends and the other descends until both cages have reached the top or bottom positions of their respective guides, when they come to rest as though to allow for loading and unloading. Then, after a short pause, the upper cage descends while the lower ascends, and the process is repeated each time the limit of travel is reached.

The motor is secured in position by bolting its flanges to the transverse Angle Girders 47 (Fig.5). The drive is taken from the motor armature via a ½" Pinion 29, a 57-teeth Gear Wheel 30 and a ½" Pinion 30a on the opposite end of the Rod carrying Gear 30. This Pinion meshes with another 57-teeth Gear Wheel 31 on a 2" Rod which also carries a Worm 32. This Worm meshes with a ½" Pinion secured to a vertical 3" Rod 33, which is journalled in bearings consisting of a 2½" Strip 43 bolted across Girder 47 beneath the motor (Figs.5 and 11) and a 1½" x ½"Double Angle Strip 33a secured between the motor sideplates. Rod 33 carries at its upper end a second Worm 34 meshing with a ½" Pinion on a 3½" Rod 35. This Rod is journalled in Corner Brackets, as shown, and carries at its end the device whereby the automatic reversing hoist motion is obtained.

It will be seen that this device consists essentially of two rotating arms, each of which is built up from 5½" Strips – secured rigidly to Rod 35 by means of Bush Wheels 38 – and a system of 1" loose Pulleys 40 and 42. Pulleys 40 are free to run on a 2" Rod 39 journalled in each arm and Pulleys 42 are mounted on a 4½" Rod attached to the motor. A Washer is placed between the Pulleys to minimise friction and allow freedom of movement.

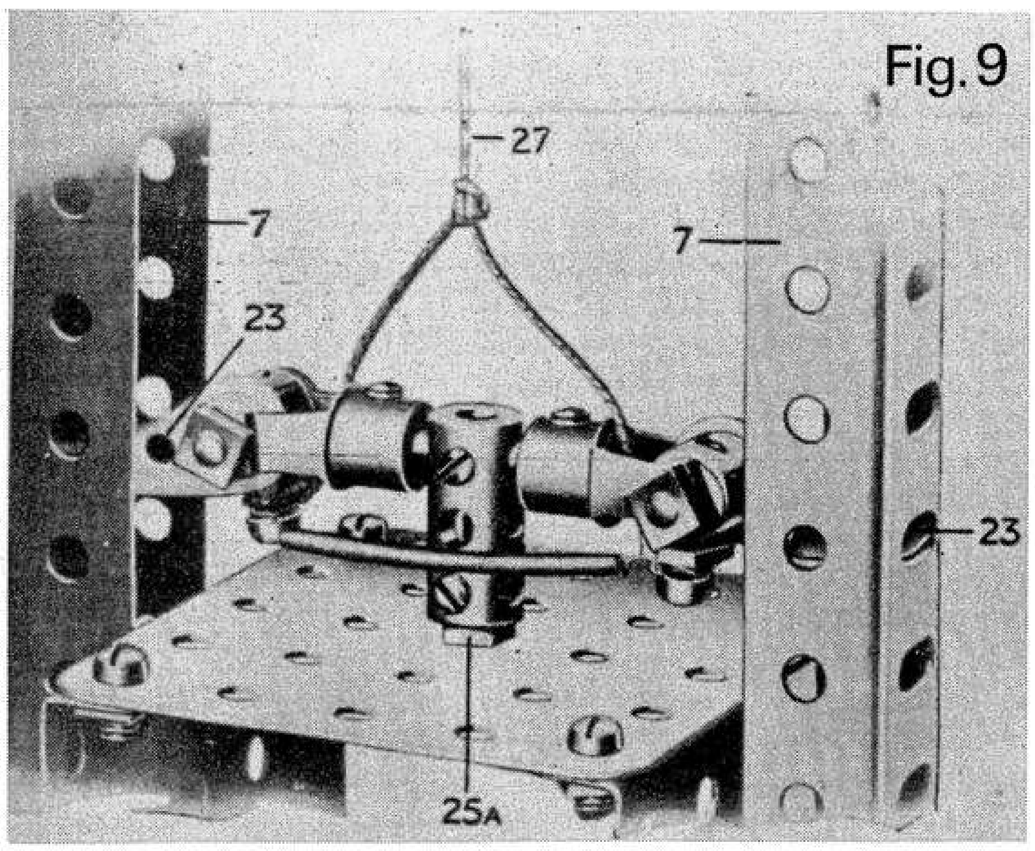
The spindle of Pulleys 40 follows the circular path traced out by the end of the arm, while the spindle of Pulleys 42 is fixed. The Cord 27, which is attached to the cage, passes



Lift cage slightly modified for No. 10 Set construction.

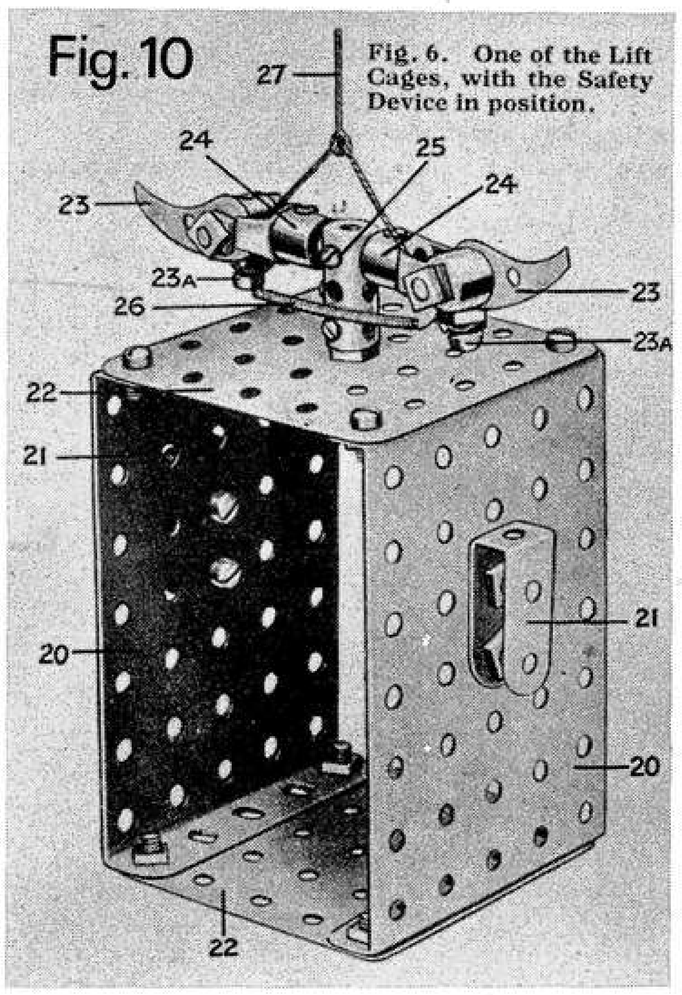
over Pulleys 51 at the top of the lift shaft. From there it is led under one Pulley 42, round one Pulley 40, back to the remaining Pulley 42 and then to the second Pulley 40. After passing round the latter, it is secured to Fishplate 42c. The system is similar in effect to a two-sheave pulley block, in which the free end of the Cord, where the power is applied, moves through four inches for every inch the load is raised. In the model, however, the load (i.e., the lift cage) is attached to the Cord at a point corresponding to the free end in the ordinary pulley block, and the power is applied to the movable pulley block. Consequently, the reverse effect is obtained, the lift cage moving through four inches for every inch of movement of Pulleys 40 relative to Pulleys 42.

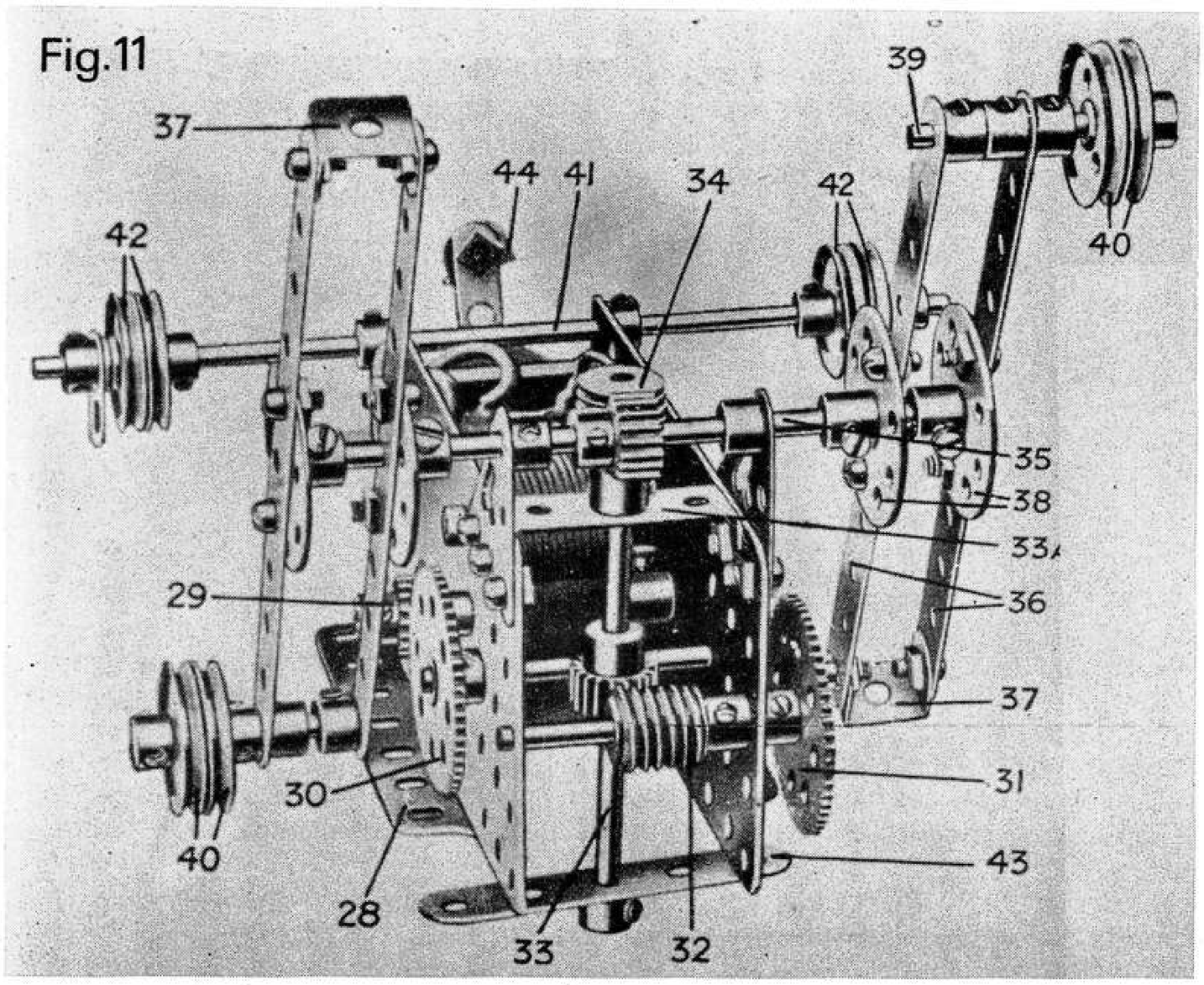
→



Left, an illustration reproduced from the original pre-war Super Model Leaflet of the Goods Warehouse with electric Elevators showing the automatic safety device fixed to the roof of one of the lift cages

Right, another original illustration showing the complete lift.





The motor and lifting mechanism for the Goods Warehouse with Electric Elevators as originally illustrated in the pre-war Super Model Leaflet.

←

When Pulleys 40 advance towards Pulleys 42, the hoisting rope is paid out, but, as the distance between the two sets of Pulleys decreases, the relative motion between them also decreases, with the result that the movement of the cage becomes gradually slower until finally, when Pulleys 40 and 42 and the moving arm are all directly in line, all movement of the cord ceases. At this point the cage is at rest at the ground floor.

The rotating arm, continuing its motion, now begins to withdraw Pulleys 40, with the result that the hoisting Cord is hauled in and the cage begins to rise, gradually gathering speed as the increasing angle of the rotating arm increases the relative movement between Pulleys 40 and 42. In view of the fact that a slight movement of the rotating arm results in a greatly magnified movement of the cages, it will be apparent that the arms must rotate very slowly. This explains the use of the double Worm drive from the motor. Owing to the considerable strains imposed upon the mechanism, the Pinion and Bush Wheels mounted on Rod 35 should be secured very rigidly in place, using two Grub Screws in each case.

The extent of the travel of the cages may be varied considerably by altering the length of the rotating arms – adding to the length to increase the travel, and vice versa – or by using a larger number of Pulleys. Such alteration will be necessary, for example, if it is decided to add further floors to the model, thus increasing the length of the lift shafts.

MOTOR CONTROL GEAR

In the model, as in an actual lift, means are provided by which it is possible to start or stop the motor and thus control the movement of the cages from any of the landing floors. This is accomplished by means of the Control Handles 10 (Fig.1) which are secured to a compound rod 9 built up from one 5½" and two 11½" Rods connected together by Couplings. At its lower end, the rod is journalled in a Double Arm Crank 11 (Fig.2) that is bolted to one of the Transverse Angle Girders in the base, as shown. Rod 9 extends from top to bottom of the Warehouse and, at its upper end, is journalled in a 1½" Strip (bolted to Angle Girder 47a), where it is held in place by means of a Collar mounted on the rod against the face of the Strip. A Crank 46 secured to the end of the rod is pivotally connected to one end of a 4½" Strip 45, the other end of this Strip being attached to an Angle Bracket that, in turn, is pivotted to the central arm of the motor switch. The Control Handles 10 are simply provided by Threaded Pins screwed into Collars.

After the mechanism has been finally adjusted, the roof may be placed in position and bolted to Angle Girders 14 to complete the model.

No.10 SET MODIFICATIONS

As mentioned in Part 1 of this feature, although the Goods Warehouse was originally presented as a pre-war Super Model, it can be built with a current No.10 Set, provided some modifications are made. Several of these have already been mentioned, but there are still some remaining. Fig. 8 illustrates the lift cage made from the No.10 Set and this has two modifications. A pair of 2½" x 2½" Flexible Plates are used for the lift floors and a pair of 2½" Strips are bolted top and bottom of the lift cage sides to act as rubbing strakes to prevent "tram-lines" being worn into the enamel of the Flanged Plates forming the lift cage sides. Your oldest Strips should be chosen for this purpose.

It must be stated at this stage that the original winding mechanism, reproduced in this article for historical accuracy, is a bad design. The "back-to-front" arrangement of the Pulley system puts a very heavy load on the winding arms which causes the Worm Gears to 'ride up' their respective Pinions. When using the E15R Motor in the No.10 version, it is advisable to scrap both Worm Drives and to use Spur Gearing, arranging Pinions and Gear Wheels to give the necessary speed reduction and power. Pre-war dealers' models were invariably fitted with "Claxon" type mains motors which would operate the models over longer periods with adequate power and performance. A specimen of the original, carefully built to the leaflet specifications for a recent Meccano Exhibition demonstrated in no uncertain terms just how unsatisfactory the original winding gear must have been.

Finally, a word about the "Safety Devices". These are something of a gimmick and fiddly to adjust, but they may be reproduced from the No.10 Set by using for one pair the two Pawls with bosses supplied in the Set, the second pair being made from the two Pawls without bosses tightly lock-nutted against a Collar on a 1" Screwed Rod.

It is hoped that both versions of the Warehouse "ancient and modern" will be on show at the 1975 Henley Meccano Exhibition.

The list of parts required to build the Goods Warehouse was given in Part 1 of the feature in Jan's MMQ.

SET 2 MODEL ... SET 2 MODEL ... SET 2 MODEL

MECHANICAL DUSTER

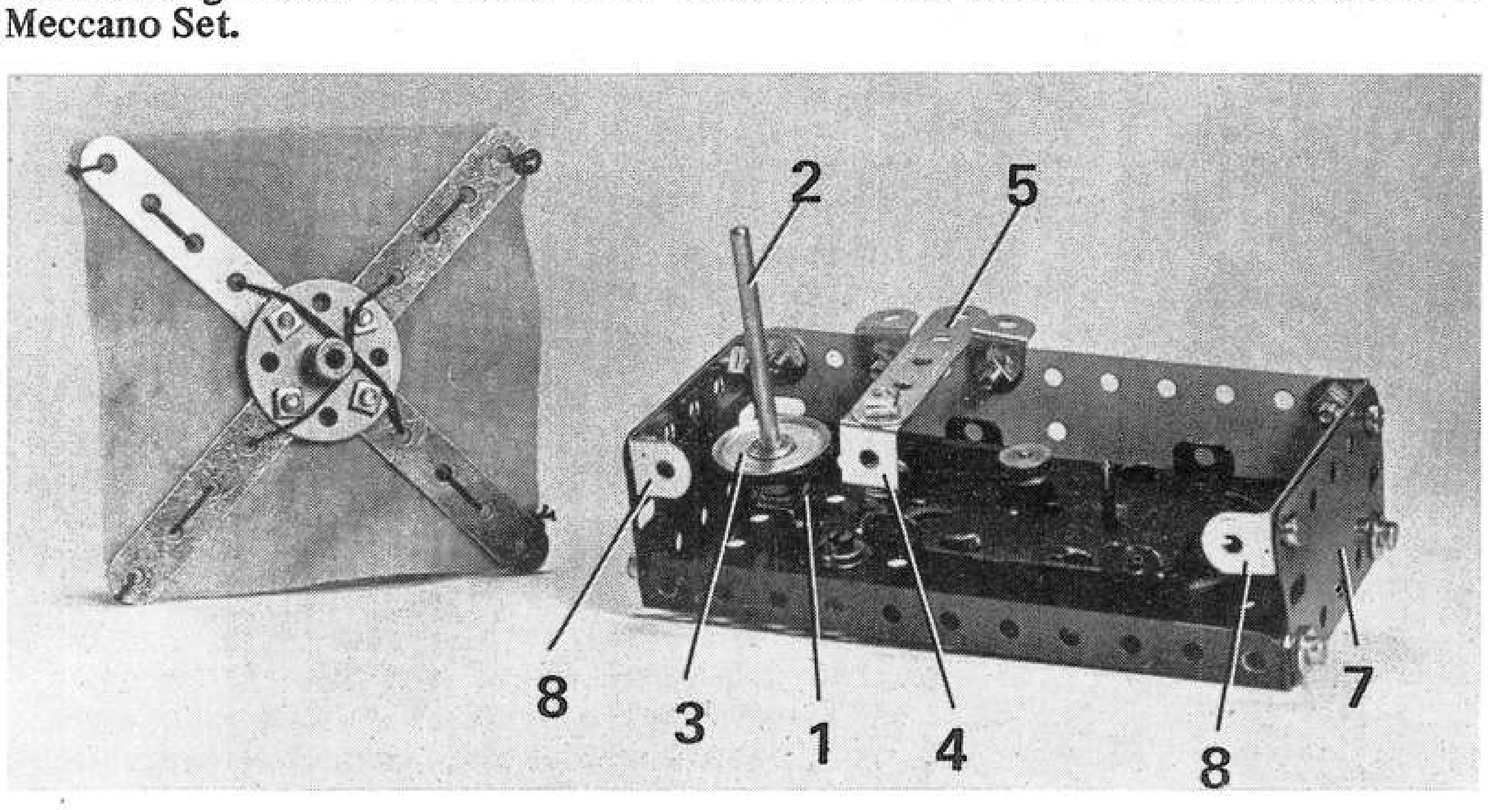
Just the thing for Spring Cleaning !

EIGHT-YEAR-OLD Christopher Yearsley, of Westlands, Newcastle, Staffs., is a young Meccano Enthusiast who will clearly go a very long way in engineering. Despite his tender years, he has a flair for invention which would put many an adult to shame!

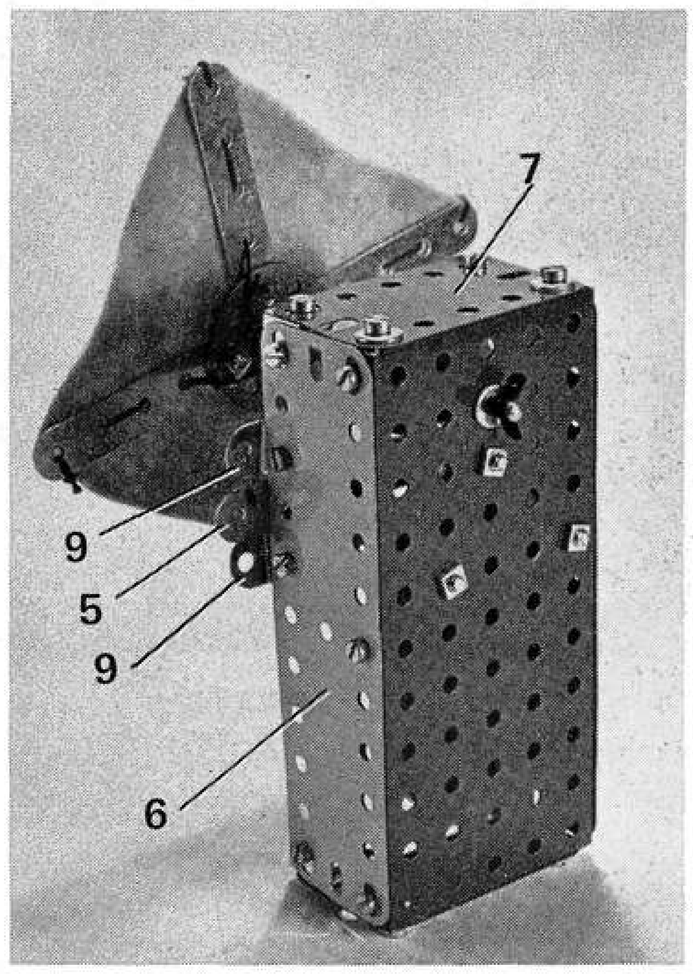
Earlier this year, Christopher's father, Mr. R.M. Yearsley, sent us a sketch of a very interesting – and useful – 'Mechanical Duster' which Christopher had invented. We built up the model from the sketch and we were impressed with it, so much so in fact that we decided to feature it in the MMQ. The problem, however, was that, although the model was really quite simple, it used one or two parts which were not included in the smaller Sets. Using Christopher's design as a basis, therefore, we modified the model to enable it to be built with a No. 2 Set – plus a Magic Motor – and we now present it here for your delight – always remembering that Christopher deserves the major portion of the credit.

A Magic Motor, brake lever forward, is bolted to the underside of a 5½" x 2½" Flanged Plate in the position shown. Also bolted to the underside of the Plate is a ½" Reversed Angle Bracket 1, the hole in the spare lug of which coincides with the second row centre hole in the Flanged Plate. Journalled in these two holes is a 3½" Rod 2, held in place by a Washer and Spring Clip above the Flanged Plate and by a Washer and 1" fixed Pulley 3 beneath the Reversed Angle Bracket. This Pulley is connected to the output pulley of the Magic Motor by a 6" Driving Band. Lock-nutted by one lug to the brake lever of the Motor is a Double Bracket 4, to the other lug of which a 2½" Strip 5 is lock-nutted.

Now bolted, one to each side flange of the Flanged Plate, are two 5½" x 1½" Flexible Plates 6, while two 2½" x 1½" Plastic Plates 7 are bolted one to each end flange of the Flanged Plate. These Plastic and Flexible Plates are connected together at their outer edges by two 2½" x ½" Double Angle Strips 8. The 2½" Strip 5, extending the Motor brake lever, should just clear one of the Flexible



In this view of the Mechanical Duster one side has been removed to show the drive arrangements and brake lever extension. The model is built from a No. 2 Meccano Set.



Full marks for originality go to 8-year-old Christopher Yearsley of Newcastle, Staffs., for designing the Mechanical Duster on which this model was based.

Plates 6 to project outwards from the side of the model. The Strip should be spaced from its supporting Double Bracket (or the Double Bracket from the brake lever) by Washers, as necessary, to ensure that the Strip clears the Flexible Plate. A guide to prevent the Strip from moving backwards and forwards is provided by two Angle Brackets 9 bolted to the Flexible Plate.

The 'dusting pad' support is simply provided by an 8–hole Bush Wheel, to the face of which two crossed 5½" Strips are bolted. To avoid distortion, the outer of the two Strips is spaced from the Bush Wheel by a Washer on the shank of each securing Bolt. The dusting pad, itself, is cut from a suitable soft material – Christopher Yearsley recommends felt – and is simply "stitched" by Meccano Cord to the 5½" Strips. Finally, the complete pad unit is secured on the end of Rod 2 and the model is finished.

PARTS REQUIRED

2- 2	1- 22	30- 37c	1- 52
1- 5	1- 24	8- 38	1- 125
1- 11	1- 35	1- 40	1- 186a
2- 12	29- 37b	2- 48a	2- 189
1- 16			2- 194

1 Magic Motor
1 Piece of Felt

COLLECTORS' CORNER

by B. N. Love

Transformers

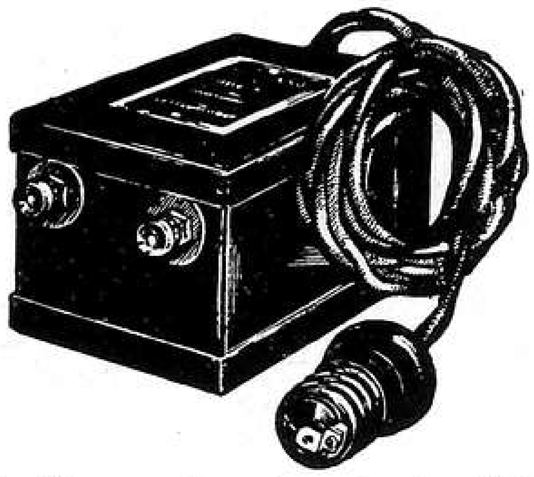
No More Dry Cells or Storage Batteries

Fig. 1

The Miracle of the Meccano Transformer. The Home Lighting System Your Own Power Station

Every boy will be glad to hear of the new way of running his Meccano Electric Motor without the cost of dry cells or batteries.

The Meccano Transformer hitches up the home lighting system to your motor; there is no wiring necessary; you simply attach it to any lamp socket. Every boy may have his own power station without further cost. You can run your models for days and days at only a cost of a cent or two for current, and *Pop* will probably pay this for you in the electric light bill. You don't have to spend any more money on dry cells. You can electrify your Meccano Models and run them continuously without further cost, and the Transformer properly used will last a lifetime.



The Meccano Transformer, price $2.00

(Use only for 110 V. A. C. 60-133 cycles)

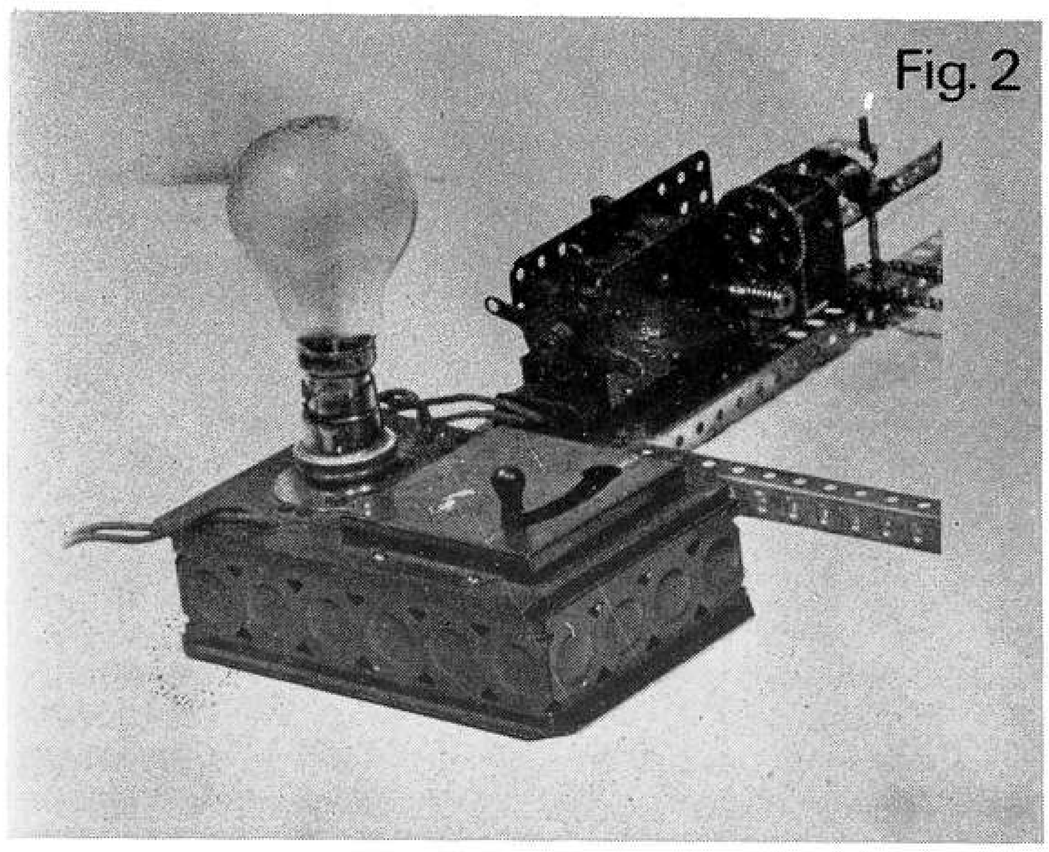


Fig. 2

READERS MAY remember that 'Collectors' Corner' in the last MMQ was devoted to a study of all the electric motors which Meccano Limited have produced since 1916. Electric motors, of course, need a power supply before they will operate, therefore, this issue, I propose to look at the power units which Meccano have produced over the years.

The earliest traceable reference to a Meccano-associated unit appeared on the front page of the U.S.A. 1916 "Meccano Engineer" which illustrated one of the original motors featured in the last 'Collectors' Corner'. Immediately below it was the illustration reproduced here in Fig.1. which shows quite a handsome transformer, complete with Edison Screw plug, standard for lighting sockets in the U.S.A. at the time. At 2 Dollars (about ten shillings of U.K. money of the day) this was excellent value of course.

Old Meccano Magazines are a prolific source of information to the Meccano historian, especially if they are complete with covers as the coloured features on the best art paper used for the covers are very striking. Meccano Ltd. didn't seem to cotton on to this until 1927 when they started to use the inside of the back covers to announce the "NEW" Meccano (first coloured parts and outfits) and then displayed their Hornby trains. Prior to this, pride of place had gone to the Lines Brothers' "TRI-ANG" toys, paradoxically a competitor which eventually took over Meccano Ltd. at one stage.

However, in the January edition of Meccano Magazine for 1928, Meccano Ltd. devoted the entire rear side of the back cover to an advertisement for "Running your Meccano Models with Meccano Motors." This showed the standard 4 volt reversing motor and the notorious Motor No.2, 100-250 volt A.C. or D.C. It also illustrated the cumbersome Meccano Rheostat and both of these last items are shown in Fig.2. Although almost 50 years old, this matched pair came into the hands of Jim Gamble of Nottingham quite recently and performed at a recent meeting of the Society of Advanced Meccano Constructors. Like many of these early devices, a "warm-up" period was required during which the high voltage motor worked very sluggishly, but it soon came to life to drive the old Super Model Roundabout built by Jim. These items were certainly available in 1926 and Meccano Ltd. often lost out by advertising 'late in the day', while competitors offered parallel goods in the pages of Meccano Magazine.

The same advertisement just mentioned also carried an illustration of the Ferranti-made Meccano Transformer for connecting the No.1, 4 volt Motor to the house mains at any supply voltage from 100 to 250 volts, but it cost some 30 shillings in 1927-28. Incidentally, a 60-watt (carbon filament) lamp was recommended for ballast in the Meccano Rheostat, but Jim Gamble found that a modern lamp of 100 watts was needed to get the high voltage motor started. A modern 60 watt lamp just offered too much series resistance. The Ferranti transformer referred to is illustrated here in Fig.3 and this specimen comes from the author's 1928 Red & Green No.7 Outfit.

As the popularity of the transformer spread with the increased installations of the A.C. national grid across the U.K. during the '30's, Meccano Ltd. began to make their own transformers to a very reliable design. Two 'classic' examples are shown in Fig.3, on either side of the earlier type mentioned above. On the left we have the Meccano Transformer T20 of 1934, complete with mains plug for a lighting socket and connecting plugs for motors or Hornby Trains. This design lasted right up

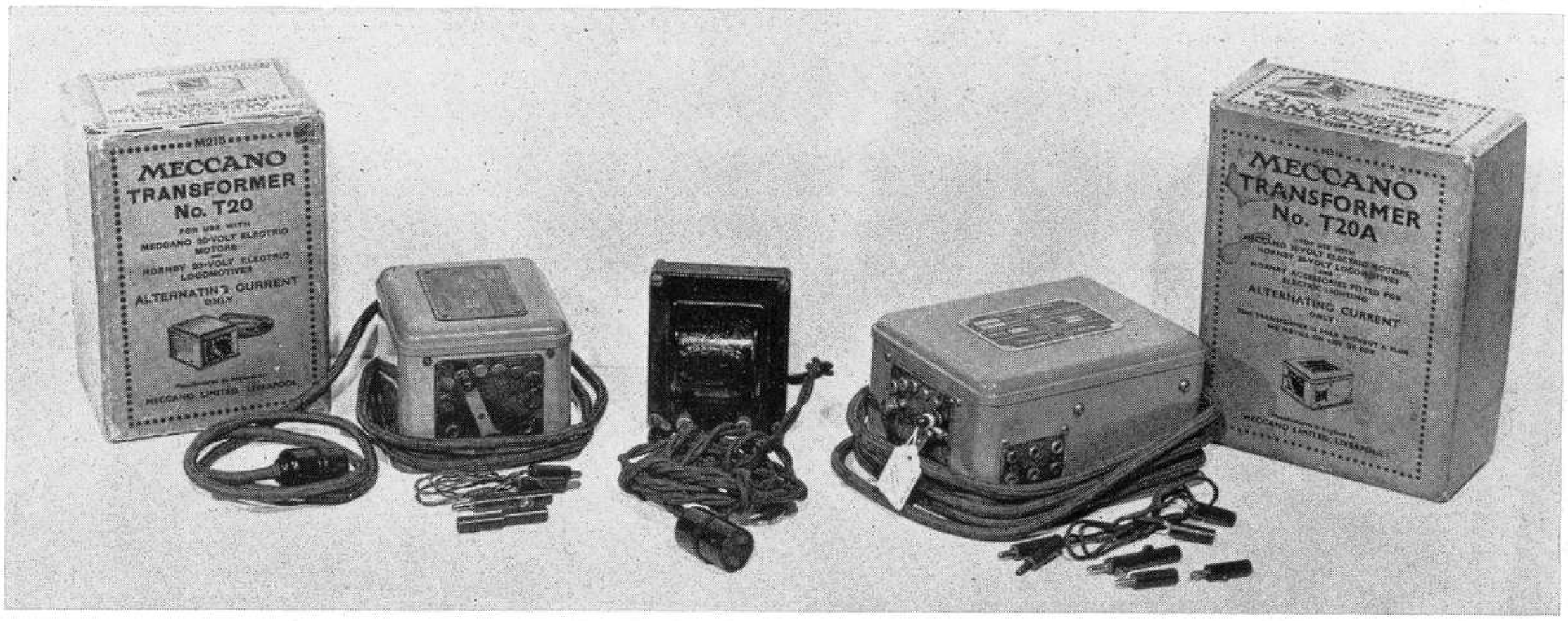


Fig. 3, Meccano Transformers of the late 1920's and mid-1930's. Left is the T20 (20 volt A.C.); centre is the Ferranti-made 4 volt A.C. Meccano Transformer; right is a 110 volt (input) sample of the T20a Transformer.

until the middle of the 1950's. Although fitted with a speed controller, this was largely for use with Hornby Electric Trains. It is generally better to run the Meccano electric motors at their rated voltage and to allow for speed and power requirements by suitable gearing.

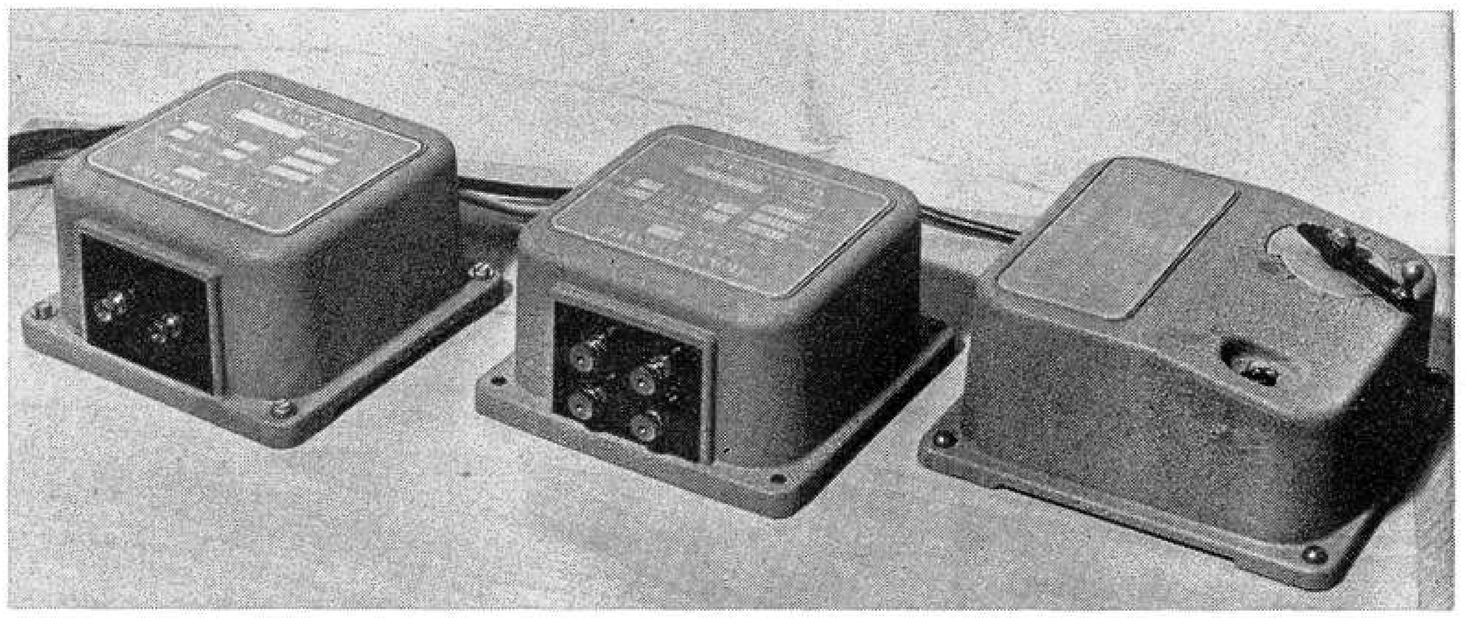
One peculiar feature of the T20 was that the highest voltage stud was immediately to the left of the "off" stud and this was deliberately provided so that, when used with a Hornby locomotive fitted with an A.C. solenoid reversing gear, the loco could be reversed from the transformer by giving a quick flick from the "off" position to the highest voltage stud.

Similar in performance to the T20 was the T20a Meccano Transformer illustrated to the right in Fig.3. However, the T20a was a little longer and broader to accommodate additional output sockets, one of which was controlled by the lever, the second having a fixed 20 volt output (for a motor) and the third pair of sockets have a low voltage output of 3.5 volts for lighting up auxiliary signal and platform lamps, etc. In front of the two last-mentioned transformers is their original connecting gear, plugs and sockets, plus one special perforated long plug to which a piece of soft wire could be connected to protect the transformer against short circuits from the track, etc.

Although not of a vintage nature, the transformers illustrated in Fig.4. have been out of production for many years now. Of post-Second World War design, they were a departure round about the mid 1950's in providing a die-cast and consequently very rugged case. On the left of Fig.4. is the Meccano Transformer T15/L, a type normally limited to the Model Room at Binns Road, Despite its type number it did not give out 15 volts and was strictly a lighting transformer with a rated output of 10 volts A.C. Its neighbour alongside, however, was available for general sale as the T15 and it did give 15 volts. In fact it served as a transformer (A.C.) for the E15R Meccano Electric Motor and had a second output, also of 15 volts A.C. for working auxiliary Hornby Dublo track equipment.

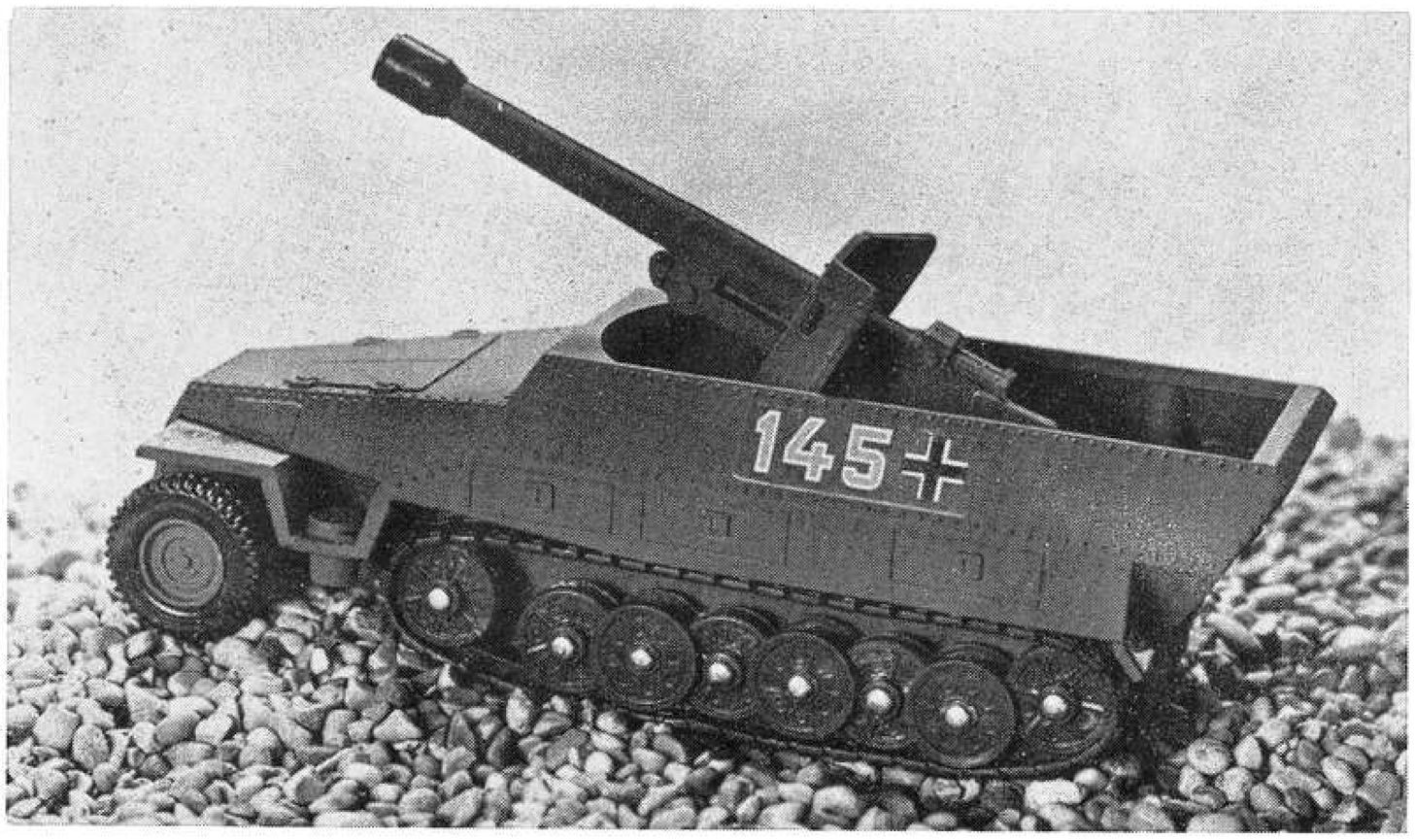
The third member shown is a combined transformer and rectifier unit and although not strictly associated with Meccano models (being designed as a train controller for Hornby Dublo railways). The Type A2 illustrated is an excellent unit for controlling the modern Meccano 3-12 volt D.C. Motor with 6-speed Gearbox. Its simple, but effective speed controller and reversing arm is very convenient for remotely controlled models. Such items do turn up from time to time in exchange shops and are useful to have for the purpose mentioned. The temptation to use such a unit for more than one motor, however, should be avoided as this can easily burn out the contact cooled rectifier originally fitted to these units. Being obsolete, the A2 cannot be accepted by Liverpool for repair, but should the rectifier blow, a Radio-type replacement "full-wave" silicon rectifier with stud bolt makes an excellent repair. If you are the sort of modeller who enjoys using (and can afford!) several Motors-with-Gearbox, get yourself a good 6-12 volt battery charger for reliable performance and bags of power!

Fig. 4, die-cast transformers produced after the second world war. Left is a T15/L demonstration model lighting transformer; centre is a T15 Meccano Motor and train transformer; right is an A2 type 12 volt D.C. Power Control Unit incorporating a transformer and a rectifier.



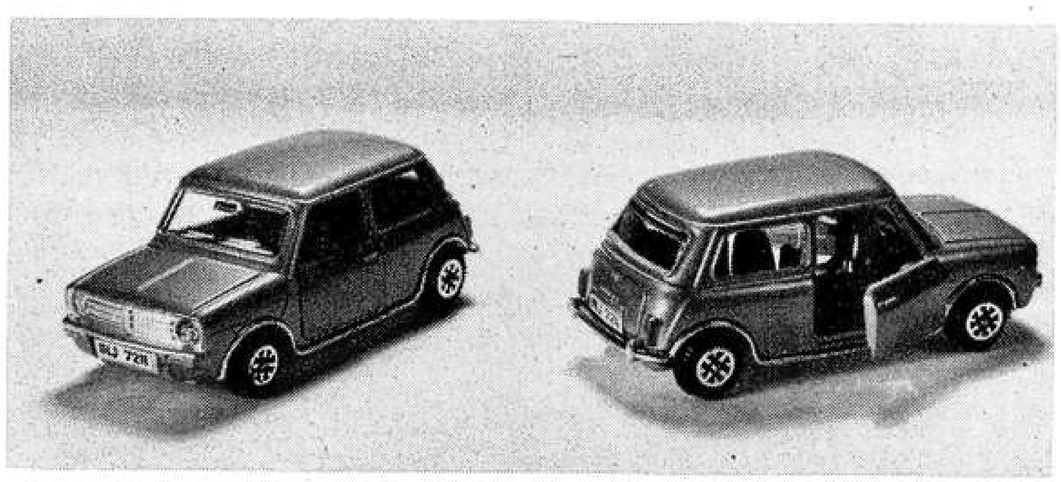
DINKY TOYS NEWS

A look at the new Dinky Toy models released since the last issue of "Meccano Magazine Quarterly".



Left, Dinky Toy No. 694 Hanomag Tank Destroyer, based on a World War 2 armoured vehicle of powerful mien. Outstanding features include an elevating shell-firing gun barrel (complete with shield), "working" crawler tracks at the rear and wheels at the front – all built onto a sturdy, realistically-detailed body casting. Produced to 1/35th. scale and measuring 171 mm. in length, overall finish is in German military green with an appropriate identification label mounted on either side. Comes complete with six harmless plastic "shells".

Right, No. 699 Leopard Recovery Tank. Action features include a "working", lever-operated crane jib mounted on a swivelling base, a lifting bulldozer blade, a removable towing cable, a revolving machine gun representation and crawler tracks. Additional features include a highly-detailed body casting, a towing hook and a whip-type aerial. Produced to 1/50th scale and measuring 143 mm. in length, overall finish is in military matt olive drab with black grilles, aerial, gun, towing cable and crawler tracks. Comes complete with a set of authentic waterslide marking transfers for self-mounting. Below, No. 178 Mini Clubman. Outstanding features include opening doors, moulded windows, a realistic interior moulding (complete with steering wheel), jewelled headlamps and "sporty" Speed-wheels. Produced to 1/40th. scale and measuring 82 mm. in length, overall finish is in bronze with a black interior and a silver radiator grille.



Below, No. 416 'Motorway Services' Transit Van, produced to 1/40th. scale and measuring 129 mm. in length. Action features include an opening side door, a lifting rear door and "working" suspension. Additional features include glazed windows, a fully-upholstered interior, a roof-mounted red light representation, jewelled headlamps and bright-plated wheels. Overall finish is in chrome yellow with a red interior, and the model sports 'MOTORWAY SERVICE' labels on either side and a chevron-type warning sign on the rear door. Comes complete with two separate warning signs and warning cones for added play-value.

Although not illustrated here, also released are two new additions to the ever-popular range of Dinky Kits – No. 1050 Motor Patrol Boat Kit and No. 1045 M.R.C.A. Kit. The former Kit contains twenty-five model components, the latter sixteen components, and the metal parts in each Kit are pre-treated ready for painting. Two phials of enamel are supplied with each Kit (enough for one all-over coat) as also are a separate sheet of waterslide transfers for self-mounting. When built-up, both Kits and, indeed, all Dinky Kits, sport all the exciting action features of the ready-made toy.

Worthy of special mention is this brand new, unique Dinky Toy which will augment and, indeed, enhance the popular range of Dinky 'character merchandise' models – No. 359 Eagle Transporter.

The model is taken from "SPACE 1999" – a brand new television science fiction series produced by Gerry Anderson (of "Thunderbirds", "Captain Scarlet" and "U.F.O." fame) and scheduled for release later in the year. Meccano have the exclusive licence for the series' vehicles as far as die-cast toys are concerned.

The Eagle Transporter is a fascinating model – a sort of inter-planetary container ship, bristling with intriguing features. The Dinky Toy version reproduces the features, in outline, and comes complete with a detachable container-style 'cabin' and spring-loaded undercarriage legs on each of its four outriggers. The spring-loaded legs enable the pick-up of the container to be automatic, and its release is by movement of a lever situated centrally on top of the model.

An instantly-appealing model, the Eagle, though delicate in appearance, is sturdy in construction – meaning that it can be used as a toy by the young collector who likes to play with his models.

Overall finish is in white with a metallic green nose cone and outriggers, red engine combustion chambers and bright-plated jet nozzles. In short, the Eagle Transporter is a sure-fire winner!

FOR COLLECTORS ....

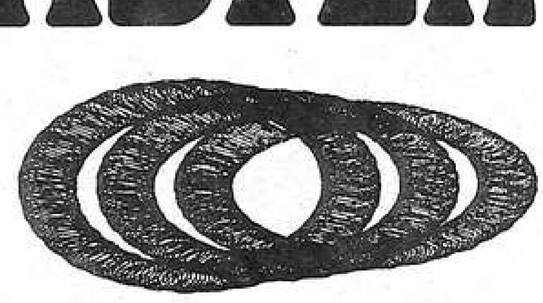
SURE TO be of immense interest to the Dinky Toy collectors and, to a lesser extent perhaps, the Hornby Railways equipment collectors among our readership, is a new publication entitled 'Collecting Meccano Dinky Toys'. It is, basically, a Meccano Magazine digest of Dinky Toys, Modelled Miniatures and railway accessories manufactured between the years 1928 and 1940, and the contents are in the form of first-class reproductions of selected pages from relevant old Meccano Magazines.

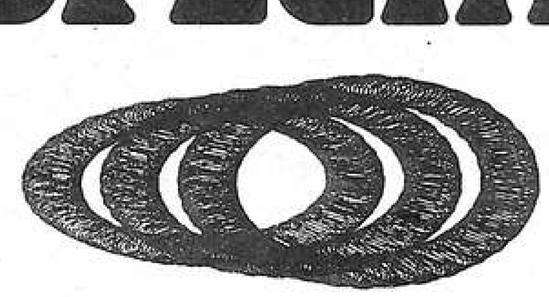
Containing a wealth of both interesting and informative material, the book should make absorbing reading for both novice and expert alike. Indeed, its predominant aims are to fill a need by providing information as to when new products were introduced and to add to the sparse literature available on the subject. Both these aims are successfully achieved.

Containing 28 pages, plus covers, the book is produced in an upright format, measuring 11 in. by 8¼ in. – which makes it slightly larger than the original M.M.'s from which the page reproductions are taken. Quality gloss art paper is used throughout, with stiffer resilient cartridge paper for the covers.

Compiled by Mr. Ronald Truin, 'Collecting Meccano Dinky Toys' is available from the Crambourne Press Ltd., 7, Cecil Court, London W.C.2. priced at £1-00 plus 20p U.K. postage.

MECCANOGRAPH EASTER SPECIAL





A No.10 Set Model by Andreas Konkoly

Described by 'Spanner'

NEVER LET it be said that the MMQ, though steeped in Meccano tradition, is not aware of the 'normal' world around it. We know what's going on out there, too, you know! *We* know, for instance, that we are in (or only just out of) the Easter season – those happy days of Easter Eggs, Bonnets and Bunnies – and now, thanks to Mr. Andreas Konkoly of Budapest, Hungary, we would like to make our own little contribution to the season with this No. 10 Set EASTER MECCANOGRAPH. Why 'Easter'? Because it draws egg-shaped patterns, of course!

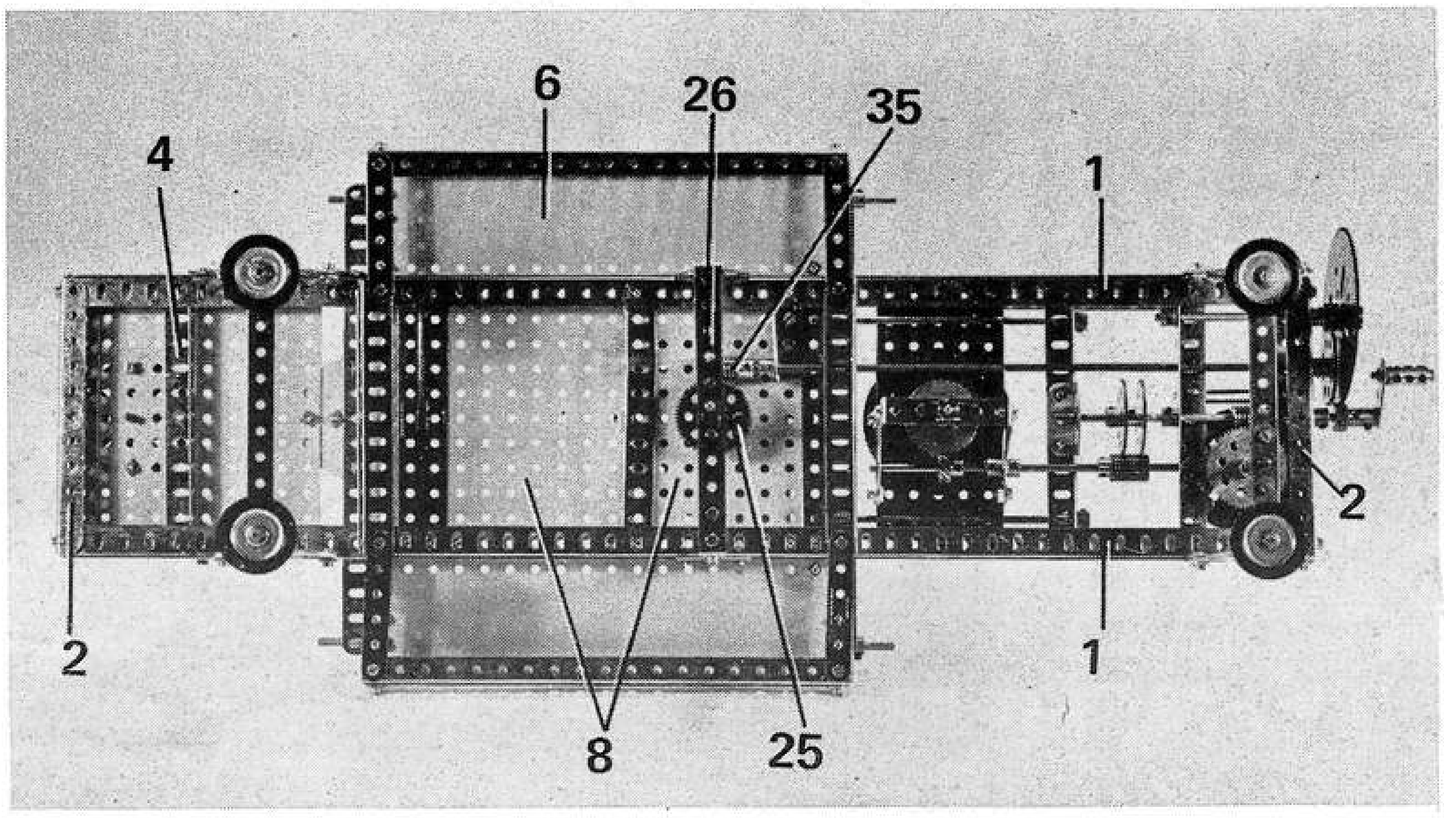
As many older modellers will know, Andreas Konkoly is one of the world's foremost experts on Meccanograph designing machines and, indeed, we have featured one or two examples of his work in the 'old' Meccano Magazine. This, his latest construction, is also his largest to date and it offers tremendous pattern variations, yet it is still a comparatively compact unit. (All Mr. Konkoly's Meccanographs, in fact, have been remarkably compact and relatively uncomplicated in design, yet they have produced some of the most precise and complex patterns imaginable.) The actual model illustrated here was built in our office from details supplied by Mr. Konkoly; we believe we have reproduced the model exactly as he instructed, but if there are any slight differences, we hope he will forgive us.

CONSTRUCTION

Beginning construction with the framework, this is built up from two 24½" "U"-section girders 1 (each supplied by two 24½" Angle Girders), connected together at the ends by two 5½" "U"-section girders 2. Two 5½" x 2½" Flat Plates 3 are bolted between girders 1 at one end, two of the securing Bolts fixing a strengthening 5½" Angle Girder 4 beneath one of these Flat Plates and between the upper flanges of the girders. Another strengthening 5½" Girder is bolted between the upper flanges of girders 1, through their twenty-third holes, then two 9½" Flat Girders 5 are also bolted between the girders, as shown, one through their thirteenth holes and the other through their thirtieth holes. Bolted between these Flat Girders at each side, and extending one hole outwards, is a 9½" x 2½" Strip Plate 6, edged by a 9½" "U"-section girder, the appropriate securing Bolts also fixing two Trunnions 7 in place. The remaining space between girders 1 and Flat Girders 5 is enclosed by two 5½" x 3½" Flat Plates 8 and two 5½" Strips.

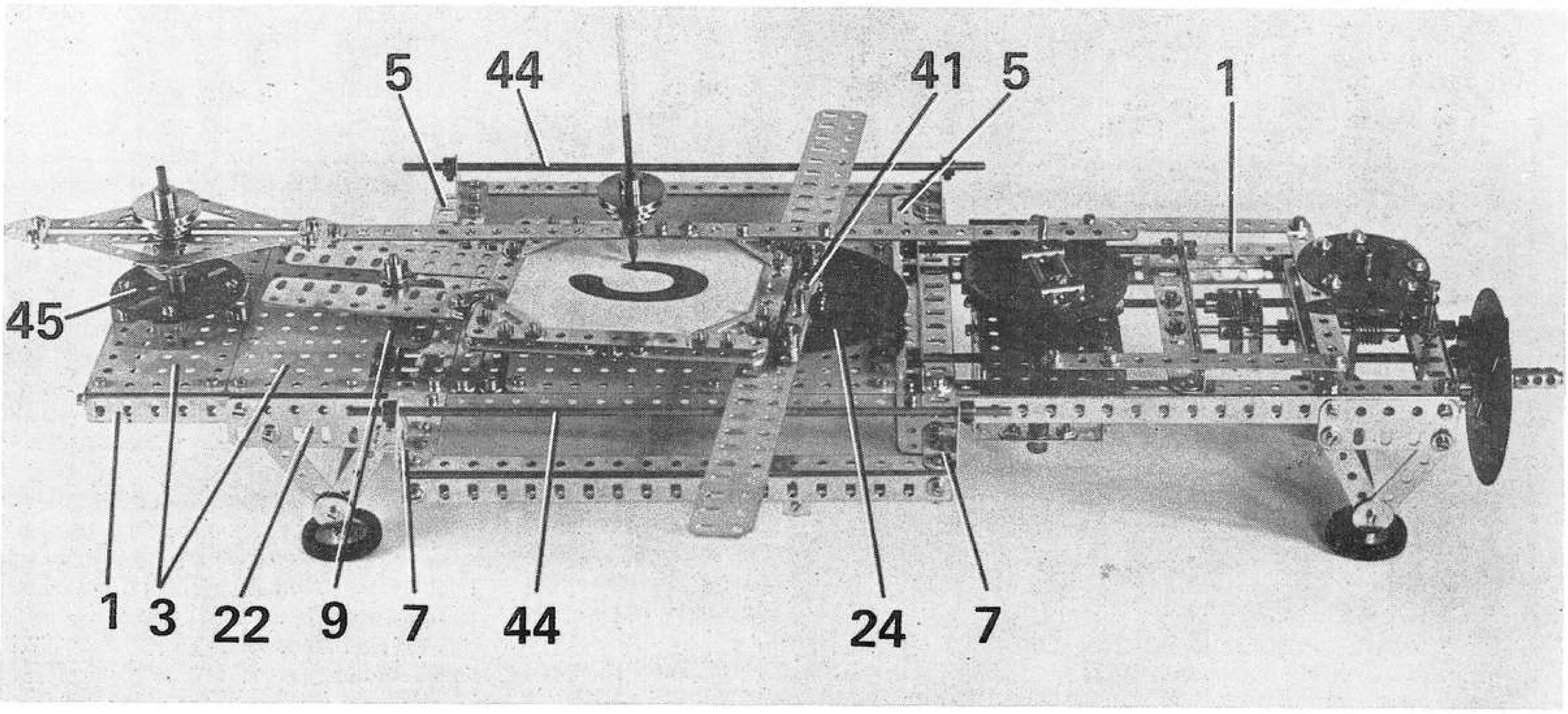
It will be seen that a short gap exists between one Flat Girder 5 and nearby Flat Plate 2. Bolted across this gap in a centralised position is a Semi-circular Plate 9 which will later serve as an anchoring point for one of the drawing table supports. Bolted in turn to the top of the other Flat Girder 5 is a 5½" Angle Girder 10, another 5½" Angle Girder 11 being secured to the top flanges of girders 1 through their tenth holes from the front end. It is important that the circular hole flanges of these Girders point upwards. A final 5½" Angle Girder 12, circular hole flange pointing downwards, is bolted to the undersides of the upper flanges of girders 1 through their fifth holes.

A general underside view of the Meccanograph showing framework details.



PEN ARM DRIVE

This particular Meccanograph is different to any other model of its type I have seen in that not only is the



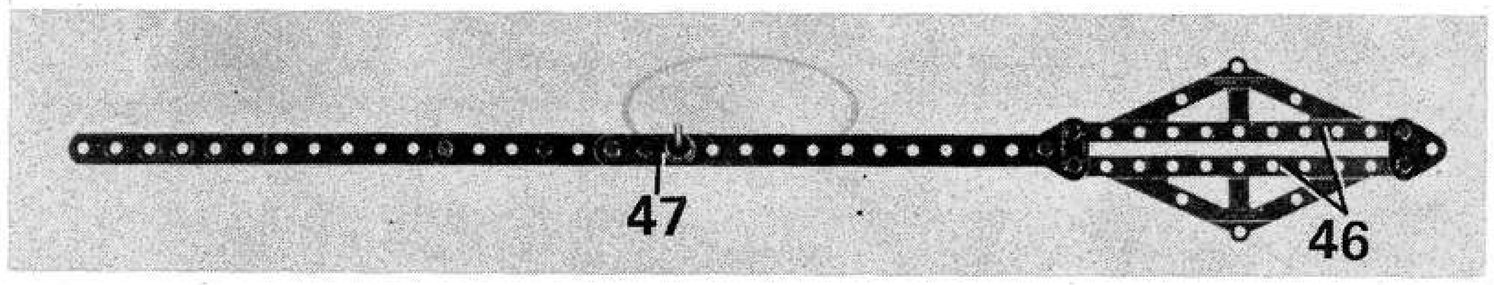
pen arm movement imparted by a variable eccentric mechanism, but this mechanism is itself mobile and activated by another eccentric mechanism! The primary unit is built up on a 5½" x 2½" Flanged Plate 13 which slides on two 5½" Rods held by Collars in Angle Girders 10 and 11. Bolted to the longer flanges of this Plate are two 2" Flat Girders, to each of which a Corner Gusset 14 is fixed with the lower ends of these Gussets in turn being connected by a 2½" x 1½" Double Angle Strip. Centrally bolted to this Double Angle Strip is a Double Arm Crank, while another Double Arm Crank is bolted vertically above it to the underside of the Flanged Plate. The bosses of these Double Arm Cranks serve as extended bearings for a 4" Rod held in place by a Washer and Collar beneath the Double Angle Strip and by a Washer and 3" Pulley 15 above the Flanged Plate. A 1½" Helical Gear 16 is fixed on this Rod.

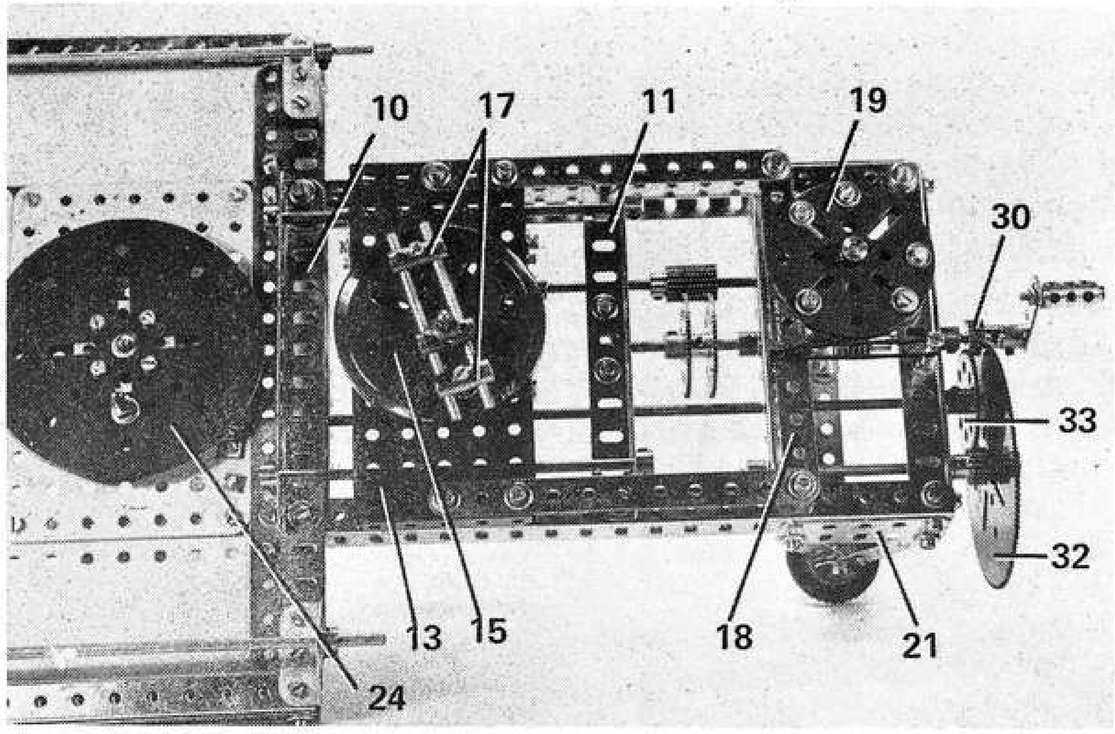
Secured by ¾" Bolts to the face of Pulley 15, through the outer diagonally opposite holes, are two couplings 17, in the transverse bores of which two 3" Rods are held. Mounted on these Rods, between the first two Couplings, is a third Coupling, in the centre bore of which a vertical 1" Rod is fixed, this Rod serving as the locating point for the pen arm. A Collar is fixed on the Rod to serve as a spacer to lift the pen arm above any surrounding obstacles. Varying the position of the central Coupling on its supporting Rods will of course vary the design of the pattern being drawn.

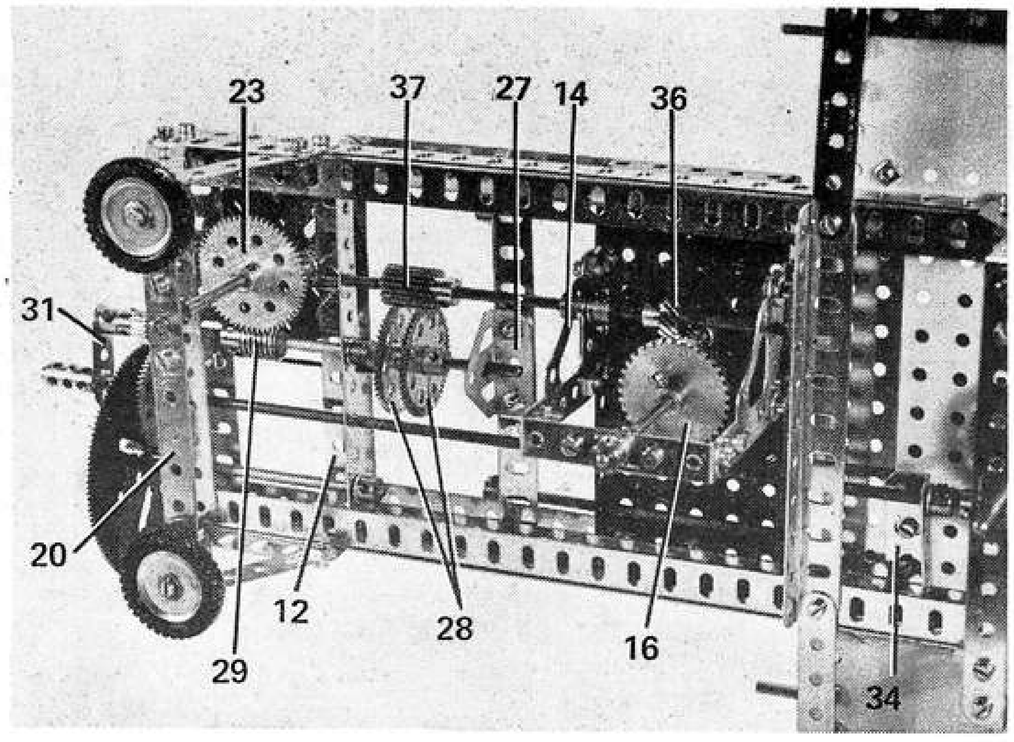
Now bolted to the top of Flanged Plate 13, at each side, are two 5½" Strips, extending forwards eight holes, the ends of which are connected by another 5½" Strip 18. This Strip makes contact with what Mr. Konkoly calls a "Bumper Wheel" 19 which is built up from two Face Plates separated by a ½" Pulley without boss and mounted on a 4" Rod. This Rod is journalled in the bosses of two Double Arm Cranks, one bolted to the underside of a 2½" Strip secured between Girders 1 and 12 and the

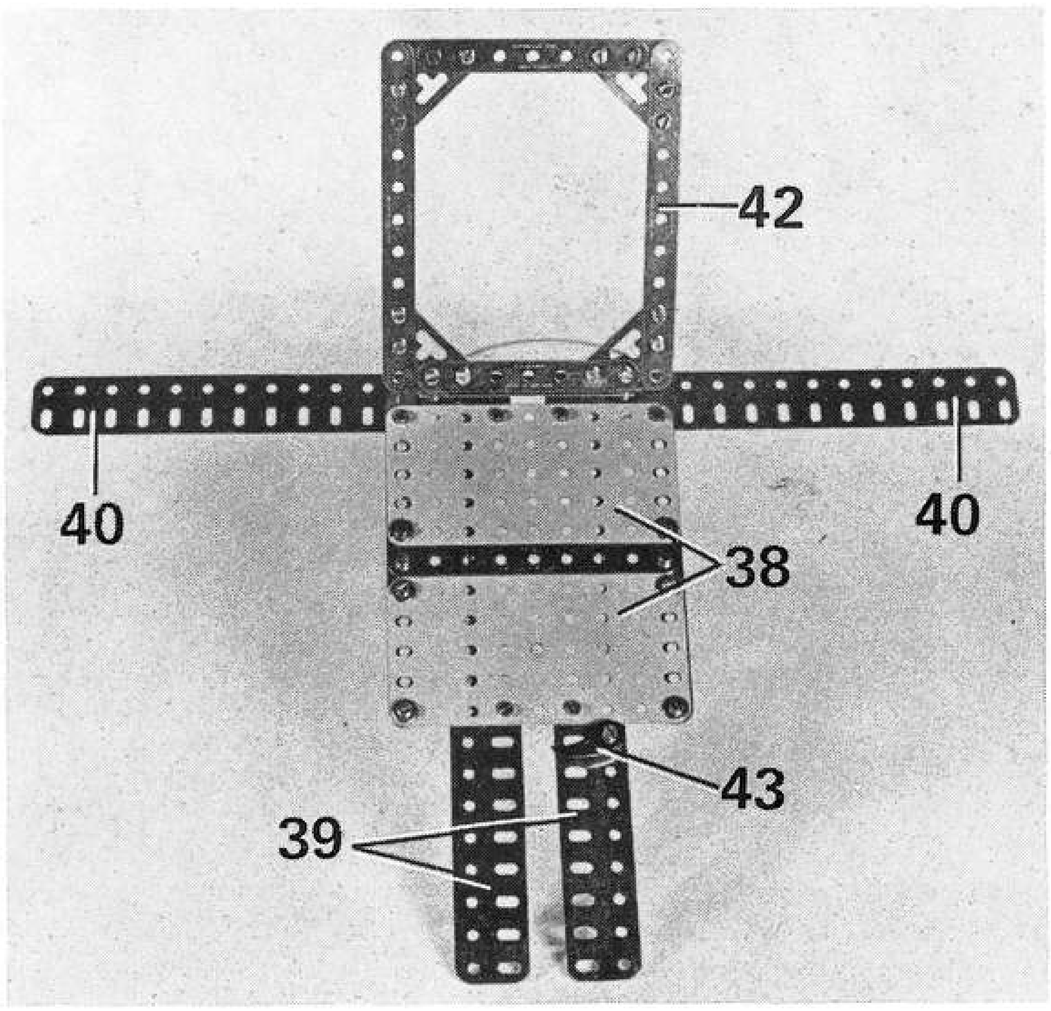
→

Above, the completed Meccanograph, ready for operation. Right, the Pen Arm. Below left, close-up view showing the three eccentric units. Below right, close-up view of drive system.









The drawing table included in the Easter Meccanograph, designed by Mr. Andreas Konkoly of Budapest, Hungary and featured in full constructional detail in this article. Unlike a drawing table on a traditional Meccanograph, which normally spins round, this unit slowly slews without revolving, tracing an elipse shape – hence egg-patterns for Easter!

←

other bolted to a 5½" x ½" Double Angle Strip 20, connecting the two front legs together. Each of these legs is built up from two 5½" Strips, fixed at their lower ends (along with a ¾" Washer) to one lug of the Double Angle Strip, and secured at their upper ends to a 2½" Flat Girder 21 bolted to "U"-section girder 1. Two feet are each provided by a 1" Pulley with Motor Tyre Bolted to the Double Angle Strip, as shown. The rear legs are similarly built, except that, instead of being secured to 2½" Flat Girders, they are secured to 3½" Flat Girders 22. Mounted on the Bumper Wheel Rod is a 60-teeth Gear Wheel 23.

We come now to a third eccentric unit, this one being responsible for the egg-shaped design of the patterns. It is simply produced from a 4" Circular Plate 24, fitted with a Threaded Pin and Bolted to an 8-hole Bush Wheel. The Bush Wheel is fixed on the upper end of a 4" Rod journalled in the centre hole of front Flat Plate 8 and in the boss of a Double Arm Crank bolted to the underside of the Plate. A 57-teeth Gear Wheel 25 is fixed on the Rod, its face immediately below the boss of the Double Arm Crank, then the lower end of the Rod is journalled in a 5½" Strip 26 which is connected by 1" x 1" Angle Brackets to two 2" Strips, each of which is bolted to a Flat Trunnion 27 which is bolted in turn to appropriate "U"-section girder 1.

DRIVE SYSTEM

At this stage the drive system for the various movements should be fitted. A 6½" Rod is journalled in the centre hole of front "U"-section girder 1, in the equivalent holes of Angle Girder 12 and in a Trunnion bolted to the underside of Angle Girder 11, but packed away from it by two 1½" Strips. Fixed on this Rod are two 57-teeth Gears 28 and a Collar (between the Trunnion and Girder 12) and a Worm 29 (between Girders 12 and 1). The Collar, together with another Collar added to the Rod outside Girder 1, holds the Rod in place. Fixed on the end of the Rod is a ½" Pinion 30 and a Crank 31, the latter fitted with a free-running Coupling on a 1 1/8" Bolt to serve as the operating handle. Worm 29 meshes with Gear Wheel 23.

Pinion 30 meshes with a 3½" Gear Wheel 32 fixed on the end of a 4" Rod held by a Collar in Girders 12 and 1. Also fixed on this Rod is a ½" Pinion which meshes with a 57-teeth Gear 33 on the outer end of a long 11½" Rod journalled in Girders 1 and 12 and in a 1½" Angle Girder 34 bolted to the underside of front Flat Plate 8, but packed away from the Plate by a Washer on each securing Bolt. The Rod is held in place by a Collar against the latter Angle Girder, then a Worm 35 is fixed on the inner end of the Rod, this Worm meshing with Gear Wheel 25.

Held by Collars in the second holes of Corner Gussets 14 and the Flat Girders to which they are bolted is a 6½" Rod which is also free to slide in the corresponding hole in Angle Girder 12. Fixed on this Rod are a ½" Helical Gear 36 and a ½" x ¾" Pinion 37, the former meshing with Helical Gear 15 and the latter with Gear Wheels 28. The Pinion must of course be in mesh with at least one of the Gear Wheels at all times.

DRAWING TABLE

We come next to the drawing table and it is interesting to note that, unlike traditional Meccanographs, this does not spin on a central axis. In fact, it does not spin at all! It is built up from two 4½" x 2½" Flat Plates 38 separated by a 4½" Strip, all three parts being connected together at the edges (underside) by two 5½" Strips. Bolted to the underside of the resulting "platform" are two 9½" Flat Girders 39, these projecting eight holes forward. Note that the Girders are fixed through their slotted holes, this being necessary as the distance between them must be carefully adjusted. Projecting eleven holes outwards from the upper corners of the platform are two 7½" Flat Girders 40, between which a 3½" Narrow Strip 41 is fixed by ½" Bolts. Each of these Bolts is fitted with a Collar and a Hinge, the Collar spacing the Hinge from the Narrow Strip. The other arm of the Hinge is bolted to a frame 42, built up from two 5½" and two 3½" Strips, connected together by four 1½" Corner Brackets.

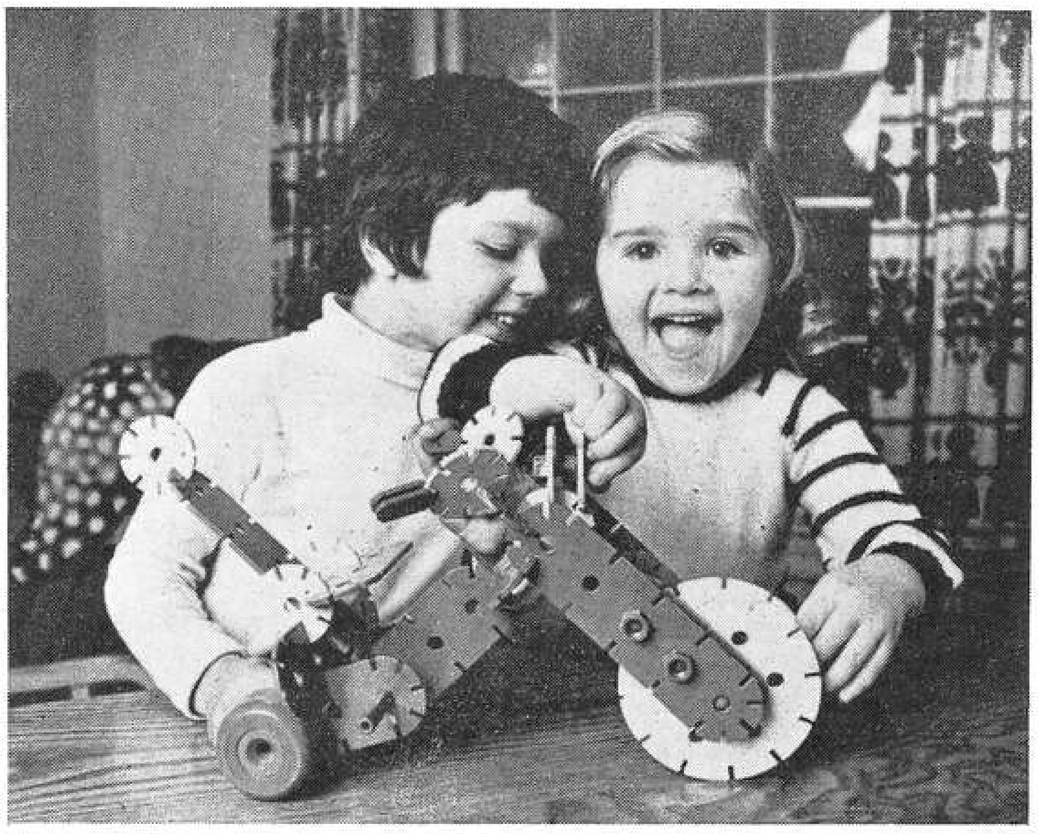
A smooth surface is of course required to support the paper on which the patterns will be drawn and Mr. Konkoly recommends a sheet of glass, 120 mm. by 95 mm. in size and 3 mm. thick. However, if you feel glass might be a little too dangerous, a similar-size piece of wood should do the job just as well. The sheet of glass or wood is placed on the platform and is held in place by the frame, a catch to secure the frame being supplied by a Pawl 43 stiffly

Continued on page 52.

PARTS REQUIRED

1- 1a	1-16	2- 48d	6-111a
1- 1b	2-16b	1- 52	6-111c
10- 2	1-18b	2- 52a	2-111d
2- 2a	1-19b	2- 53a	2-113
2- 3	4-22	24- 59	2-114
4- 4	2-23a	1- 62	1-115
9- 5	1-23b	1- 62a	1-115a
2- 6	1-24	5- 62b	2-123
4- 6a	2-26	4- 63	5-126
4- 7	1-26b	2- 70	2-126a
4- 8a	4-27a	2- 77	4-133
11- 9	1-27b	4-103a	4-142c
1- 9f	1-27d	2-103d	1-146a
4-11	2-32	2-103f	2-147c
2-12a	193-37b	2-103g	1-186a
3-13	214-37c	2-103k	2-196
2-14	85-38	2-108	1-211a
2-14a	6-38d	3-109	1-211b
1-15a	1-47	2-111	1-214
2-15b			1-235b

Piece of Glass:
95mm. x 120mm. x 3mm.



A new pre-school product reviewed by the Editor.

ON THE front cover of the last M.M.Q., I reported on the forthcoming introduction of the new Meccano Combat Multikit, which, incidentally, has now been released. The Combat Kit, however, was not the *only* new Meccano Limited product to be exhibited at the Brighton Toy Fair. There were several new Dinky Toys, three new Mogul Steel Toys and a brand new junior constructional system, for which we have coined the name 'PRIMA'.

The new Dinky Toys and new Mogul toys perhaps do not directly concern the Meccano modeller at this time, but I believe that Prima, being a new constructional system, will be of considerable interest, particularly to the parents of young children.

The accent here is on the word 'young'. Prima, in fact, is aimed at the *very* young; the before-Plastic-Meccano children, or, as the experts prefer to put it, the 'pre-school market'.

It will be appreciated, if you think about it, that children of the age group in question are not generally capable of building up models using nuts and bolts in the Meccano way; indeed, they do not generally build 'models', so much as produce interesting 'shapes'. Prima, therefore, has been designed to remove the need for nuts and bolts, with the 'shape' idea also being kept very much in mind. Is it, then, another clip-together building brick?, you might ask and the answer is, No! It is a totally different slot-together toy, the parts of which can be roughly likened to Meccano shape. Prima consists chiefly of chunky strips and discs, the edges of which are slotted. Using the slots, the parts simply interlock – it's easy!

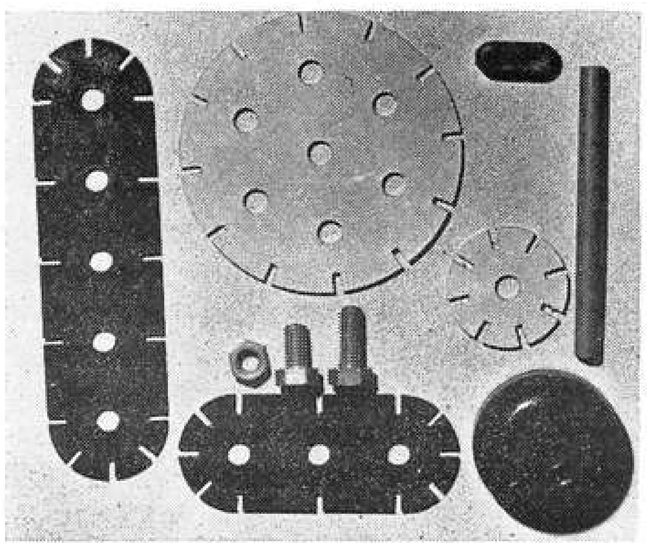
REQUIREMENTS

In designing a toy for very young children, three basic requirements must always be borne in mind: safety, strength and simplicity. With Prima, safety is covered by the fact that the components are too large to be easily swallowed, do not have any dangerous sharp points and are produced from a completely non-toxic plastic. The plastic is virtually unbreakable, yet rigid, which provides the strength, and simplicity is covered not only by the remarkably easy assembly principle, but also by the fact that the variety of different components in the system is deliberately limited.

The entire Prima system, in fact, consists of only 11 different parts. There is a large and small strip, a large and small disc, a link-piece, a wheel, an axle, an axle clip, a nut and two different-sized bolts, the three latter items, in fact, being Plastic Meccano. It is important to stress that the nut and bolts are not *essential* to the successful use of Prima, but are provided for the benefit of older users who may want to build larger, more ambitious structures. To assist in this direction, the strips and discs are perforated with Plastic Meccano-sized holes at Plastic Meccano spacing.

Prima is scheduled for production by the middle of the year and will be available in two outfits, the smaller No. 1 Set, without wheels and axles, and the larger No. 2 Set containing wheels and axles in addition, of course, to a greater quantity of the other components. All the components are bright – red strips and yellow discs – and, from a child's point of view, have a warm 'friendly' feel to them. The outfit packaging is strikingly attractive with full-colour illustrations of models that can be built from the sets on one side and, in the case of the No. 1 box, an all-over colour photograph of a young boy with a Prima model on the other side. A similar theme is followed on the front of the No. 2 box, except that two delightful children – a boy and a girl – are illustrated, this being designed to get over the message at a glance that Prima is ideal for children of *both* sexes.

Finally, if I may close on a personal note, I should like to say that I honestly think Prima is a winner. Bearing in mind the age group at which it is aimed, it is literally as advanced as the capabilities of the young user make it. For the toddler, as few as two pieces slotted together can produce a satisfactory 'toy' (perhaps abstract!). More parts in the hands of the more advanced child result in a more adventurous toy and, if all the parts are used, some quite sophisticated structures can be produced. And, don't forget, the whole time the child is playing, he is learning – learning to use his imagination as well as his hands. One thing is certain, Prima makes learning a pleasure!



Top of page, an effective Meccano publicity picture designed to show that Prima is intended for boys *and* girls. Left, all the Prima parts, except the Axle Clip, are illustrated here.

MECCANO CLUB ROUNDUP

All Meccano Clubs are invited to submit reports for these pages. Reports should be approximately 350 words long, and should reach us by the end of the second month before month of publication.

HENLEY SOCIETY OF MECCANO ENGINEERS

A well-attended meeting of the Society was held on January 4th, in the Sacred Heart Church Hall. Barry Maycock was Chairman for the evening, and he also organised a '£1 for 1 lb' competition in which any Meccano model was eligible for the prize of £1 (kindly donated by Barry), provided that it didn't weigh more than 1 lb. Entries ranged from a miniature Meccanograph to a Horse-drawn Plough, but the judges unanimously chose a model of 'My Ding-a-Ling' by John and Heather Moore-Bridger as the winner. Their representation of the well-known pop song involved a Magic Motor and centrifugal force and so, at last – thanks to Meccano – everyone can know what a Ding-a-Ling really is!

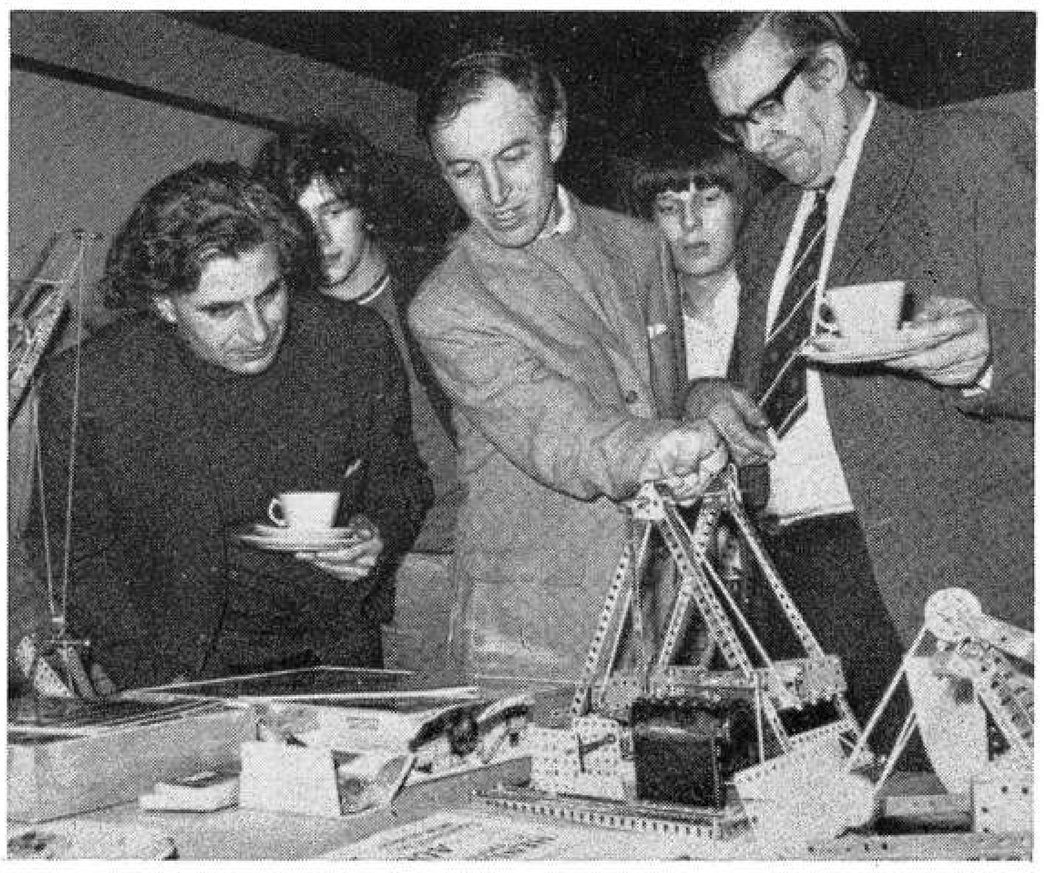
Refreshments, excellent as always thanks to the efforts of the two Mrs Wrights, were followed by examination and discussion of the models on display. It was good to see so many models, and not all can be mentioned here, but there were no less than three traction engines, including a fine Fowler Traction Engine by Keith Orpin. A. Ashford showed his Leyland Tiger Single Decker bus which incorporated full mechanical detail and was attractively finished in red Meccano with superbly-executed, hand-painted London Transport Lettering. Still on vehicles, Peter Wilson showed a Lorry Chassis which included a simple but very effective power steering mechanism.

Geoff Wright demonstrated a model which showed the principle of some steam driven boats he had seen at Stoneleigh. It was powered by a Meccano Steam Engine, ingeniously adapted so that the oscillating cylinder motion became linear and was controlled by the same type of Savages 'rabbit' valve gear as used in the original.

To conclude this selection, Ted Brooker's version of Bert Love's Grandfather Clock was magnificient in red and silver, and among the visitors from other Clubs was Ernest Chandler with a SML 15 Tank Loco and Bill Roberts with a rather nice, illuminated Meccano Xmas centre-piece.

P.A. Knowles

Geoff Wright demonstrates his Steam Yacht at the January meeting of the 'Henley Society of Meccano Engineers'. The yacht is powered by a Meccano Steam Engine, and is based on the fairground steam yachts still to be seen at steam engine preservation fairs.



HENLEY SOCIETY OF JUNIOR MECCANO ENGINEERS

At the January meeting, the Society was presented with a trophy by the "Meccano Engineer" magazine, in recognition of the fact that "ME" originally grew out of the Club's Newsletters. It was decided that, at each meeting, the Trophy would be presented to either the builder of the best or most original model, or the winner of a previously-specified competition. At the next main meeting, the winner would exchange the Trophy for a Certificate. Mike Nicholls, Editor of "ME", presented the Trophy for the first time to Peter Simpson of Reading. Peter had built a superb model of a Tractor Dozer, which correctly portrayed its prototype.

Another event at the January meeting was a competition for the best model weighing one pound or less. The prize offered was a crisp, new, one pound note. The eventual winner was Roger Smith of Wargrave, who built a fairground Big Wheel. The model was a perfect representation of the real thing, performing all the motions correctly. The local 'Evening Post' gave quite a large write-up of the competition, and published a picture of Roger with his model and a pound note.

At the February meeting, our members were the first of the general public to view the new Combat Multikit (just one week after the trade introduction at the Brighton Toy Fair). Our members were very impressed – indeed, quite a few enquiries were made as to when the Kits would be on sale!

The joint winners of the "ME" Trophy at the March meeting were Michael Drinkwater and Tim Williamson. The boys were awarded the Trophy for their "Quiz Machine" which was built largely of Elektrikit parts. The machine had two push buttons and two lamps, one each for two contestants in a quiz: when one contestant pressed his button his lamp lit up, and the relays in the circuit prevented his opponent's lamp being operated – thus showing who pressed his button first. The boys had built two versions of the circuit, one with Electrikit parts and one with Electronic Control parts.

Paul Smith.

Roger Smith of Wargrave with his prize-winning model of a Big Wheel – and the £1 note he won at the H.S.J.M.E.'s January meeting "Pound-for-a-Pound" competition.

MAYLANDS MECCANO CLUB

Since our last report, the awards for the 1975 'Presentation Night' have been decided. The awards are as follows:–

Senior Model Builder	Gary Macri
Runner-up	Clem Bond
Junior Model Builder	Kevin Stephens
Runner-up	Stephen Watts
Highest Aggregate Points	Clem Bond
Award of Merit	Lewis McBeath

Model of the Year (Giant Block-setting Crane) Gary Macri

We all hope that the organiser of the Maylands Youth Centre will be available to make the presentations on 'Presentation Night', which is 4th April.

The annual 'Christmas Break-up Party' before the school holidays was a great success due to the efforts of the parents who came along to help the Club Leader with the organisation.

New arrangements have been completed for this year, in which the Club year is split up into three, fifteen-week terms which are as follows:–

First Term – Friday 7th February to Saturday 17th May.

Second Term – Friday 23rd May to Saturday 30th August.

Third Term – Friday 5th September to Saturday 30th December.

'Break-up Party' – Saturday 20th December.

The local Meccano agents have asked the Club to build some display models for them, and we are all looking forward to building models with brand new parts. There is a growing trend towards building remote-controlled models in the Club. So far, Barry Pearce has built a remote-controlled Fork Lift Truck, Gary Macri a Patrol Car, Clem Bond a Sports Car and Keven Stephens a Sports Car also. Gary Macri has converted his Hammerhead Crane to remote-control, and is now converting his Giant Block-setting Crane also.

A model 400 Gestetner Duplicating machine has been purchased so that we can do our own duplicating and, later on, start publishing our own Newsletter.

Clem Bond
Gary Macri

MIDLANDS MECCANO GUILD

There was a record turn-out for the 16th. meeting of the Midlands Meccano Guild which was held at Alcester on 22nd. March, with no fewer than 35 members attending. Yours truly was one of the last to arrive, and it was perhaps as well I only had a small model, or I would have had difficulty finding space to put it down amongst the 40 or so other models!

Quite a number of novel subjects were modelled this time, including two spans of the 'Saltash Bridge' by Allan Partridge (each was about 12' long), the Laxey Waterwheel by Ernest Chandler, a Chess Board complete with men by Esmond Roden and a facsimile Transmitting System by Roger Wallis. Yorkshireman, Mike Pashley, had set-off at the crack of dawn in order to arrive in time to erect his Giant Excavator, modelled on a Marion-type 5323 Stripping Shovel.

It was, however, the younger element among the members who really stole the limelight on this occasion. Martyn Brown demonstrated a well-proportioned Mobile Crane with remote control of each of its five motors. His brother, Graham, followed with a Programmed Control Unit, the programme being stored on a roll of punched paper which controlled built-up latching relays via sensing contacts. Quick as a flash, Graham coupled his unit to Martyn's Crane and proceeded to control it. An alternative form of control was shown by new member Ian Henwood who had adapted a Giant Block-setting

Crane (SML 4) for radio-control, using eight of the ten channels of a model aircraft type system.

Chris Reeve brought his model of an instantly-recognisable Midland Compound Loco, and Keith Orpin a beautifully-detailed Showman's outfit comprising Burrell Road Loco and 89-key Marenghi Fairground Organ, both built to about 1/10th. scale.

I could go on and on, but, unfortunately, space does not permit. If you would like to see some of these and other fine models, why not try to get along to the Guild's display at the 'Stoneleigh Town and Country Festival' this coming August Bank Holiday.

Phil Ashworth

SOCIETY OF ADVANCED MECCANO CONSTRUCTORS

This was a very successful meeting attended by a majority of members, despite return car journeys of over 200 miles in a time of soaring petrol costs. Fair weather greeted the travellers, although some had lashing rain in which to battle their way home!

Once again, an excellent variety of models were on show, full details of which appear in the Society's magazine, the 'DRIFT'. Some idea of the range may be gleaned from a brief comment on one or two models which stood in a class of their own; David Whitmore's beautiful "museum-piece" Maudsley's Paddle Engine driven by a 1929 Meccano Steam Engine and fitted with fully-feathering paddle wheels; Pat Brigg's breakthrough in a novel clock mechanism (to be disclosed at Henley later in the year).

Exhibits ranged from a gigantic Shipyard Gantry Crane by John Palmer, to a very compact 2½" x 2½" Slave Clock by Leslie Dougal. Incidentally, Leslie was one of the long distance travellers who made the trip – with a whole car load of models – despite being due into his local hospital for major surgery on the following Monday morning. How's that for keenness and enthusiasm?!)We have since heard that his operation went well).

As this meeting was the first A.G.M., time was set aside for business discussions, but apart from that, the meeting was as informal as possible. U.K. subscriptions were pegged at the previous year's figure, and it was decided to present an S.A.M.C. stand at the Henley Exhibition, under the co-ordination of the new Chairman, Roger Wallis. David Whitmore was elected Vice Chairman for 1975/76, and a vote of thanks was given by Hubert Lansley, our President, to all those who had worked so hard to support and establish the S.A.M.C. Hubert also thanked the members' wives who had worked so hard to carry out the canteen duties so well, and he presented them with the customary box of chocolates.

Space precludes further mention of the other first class models, but many readers will have a chance to see them at Meccano shows later on in the year.

B.N. Love

SOUTHERN CALIFORNIA MECCANO CLUB

We are pleased to announce the formation of a new Meccano Club in the United States of America. The organisation – to be known as the Southern California Meccano Club – Was formed by an official vote on January 25th (1975), at the home of the Secretary/Treasurer, Dr. Clyde Suttle.

The founder members of the Club are Hal Munn, Edward Marzola, Keith LaBar, Jack Taylor and Allen Miller. All, with the exception of Jack Taylor (who is a recent convert), are "Meccanomen" with experience going back to the 1920's and 30's. The group has been meeting for a year now, as a result of seeing each other's names in a roster of 'U.S.A. Meccanomen', which is published by Ava International.

Of interest is the fact that Allen Miller, an engineer, was born and reared in Liverpool, but has been living in Southern California since 1958. Professor Suttle will be known to those who follow the Meccanoman's Journal, as the owner of a large collection of Meccano literature, including the rare and little known publications of the 'Meccano Company of America'. In addition to Meccano, Hal Munn, a civil engineer, has a large store of 'Erector' parts from the heyday of the 1930's. Keith LaBar, retired from the motion picture business, has followed Meccano since the 1920's and is also an antique toy train enthusiast. Ed Marzola, a mechanical engineer, is from Argentina: he recently visited his former home and returned with a number of Argentinian Meccano parts. Jack Taylor is a young electronics technician who was captivated by a Meccano exhibit while touring the 'Queen Mary' – now a restaurant, hotel and maritime museum in the city of Long Beach, California.

Meccanomen living in the Southern California region are cordially invited to get in touch with Dr. Suttle at 6062 Cerulean Avenue, Garden Grove, California 92645 (714-892 0602), and to join in at any of our meetings.

Hal Munn.

STEVENAGE MECCANO CLUB

All members at Stevenage and elsewhere have been busy since our last report. On November 30th. 1974, Neil Alston and his son, Clive, put on a small Meccano exhibition at a bazaar organised by the North Avenue Methodist Church in Letchworth, Herts. What fun they caused with their own design of Aerial Bombing Machine. The targets used were 'Marshmallows' (300 of them), and everybody paid 1p to try and pierce one with a dart: £3.00 was raised in only one and a half hours!

Jack Farrington had various Fairground Machines – including his Cake Walk – on display at a Christmas Grotto held in St. John's Hall, Cwmcarn, Gwent, on December 7th. This display was much admired by the children visiting their local Father Christmas. S.M.C. Secretary, Dennis Higginson, spent Christmas in nearby Newport, and was thus able to see Jack's models and pass on the latest S.M.C. news at first hand.

In Stoke-on-Trent, Roger Le Rolland's talents featured in Christmas displays at four local shops. Among the exhibits were his Rolls-Royce and Goodwin Lightship models, which many readers will have seen at Henley last year.

We have a new adult member from Pontypool, Gwent, who is busy building a Walking Dragline Crane which needs twelve motors. He is Christopher Stinchcombe, and anybody interested in helping to form a Meccano Club in South Wales should contact him at 8 Brynwren, Pontypool, Gwent (Phone 4111).

On 2nd January, Dennis Higginson took fifteen members to the 44th Model Engineer Exhibition in London. All enjoyed the outing, and were interested to see Mr. Chapman's Meccano model Deltic Loco on show again, and pleased that it was highly commended.

NEW MEMBERS

Adults Neil Alston (Letchworth), Alan Clough (Swansea), Stuart Day (Portsmouth), Iain Mitchell (Wooburn Green).

Boys Clive Alston (Letchworth), Paul Smith (Henley), Gary Smith (Stevenage), Timothy Fisher (Ashton End, Herts). Stephen and Michael Aldridge have moved to Birmingham, and we send our best wishes for many happy days of Meccano modelling in their new surroundings.

John Foord

PROPOSED NEW MECCANO CLUB

Calling all Meccano enthusiasts in the St. Albans area of Hertfordshire!

Mr. R.E.G. Goss of St. Albans proposes to form a Meccano Club in the area if response from fellow enthusiasts is favourable. Anybody interested should contact Mr. Goss at 24 Skyswood Road, Marshalswick, St. Albans.

FOURTH ANNUAL

MECCANO EXHIBITION

TOWN HALL HENLEY-ON-THAMES

Friday & Saturday 10 a.m. – 6 p.m.

29th & 30th August

Admission:	Adults:	Friday 25p.	Saturday 10p.
Exhibitors Free	Children:	Friday 10p.	Saturday 5p.

Friday will be a special enthusiasts' day when readers of the MMQ, club members, Meccano model builders generally, and their families are invited to meet each other and display their work. On Saturday the Exhibition will also open to the general public.

COMPETITIONS

"SUPERARMY"
Best model built from ONE COMBAT AND ONE ARMY MULTIKIT COMBINED.

"POUND FOR A POUND"
Best model WEIGHING NOT MORE THAN 1 lb. MECCANO parts of all descriptions may be used.
TWO CLASSES: Age 13 and under. Age 14 and over (adults may enter).

"MOGULPLUS"
BEST MECCANO MODEL BUILT ON ONE MOGUL LORRY. MECCANO parts of all descriptions may be used.
TWO CLASSES: Age 13 and under. Age 14 and over (adults may enter).

"PLASTIC MECCANO"
BEST PLASTIC MECCANO MODEL of any description.
ONE CLASS: Age 7 and under.

Entry forms, further details, list of accommodation. Send request with S.A.E. to the organisers:
M.W. Models, 165 Reading Road, Henley-on-Thames, Oxon, RG9 1DP.
Telephone: Henley 3342 (STD Code 049-12).

AMONG THE MODEL-BUILDERS

with "Spanner"

A Section for readers from readers

IF YOU cast your mind back to the last issue of the MMQ, you will remember that, in the report on the South African Rand Hobbies Fair, mention was made of a giant Mobile Crane which towered over the other exhibits at the Show. At that time, the Editor did not have space to make more than a passing reference to the model, but he promised to give some more details in this issue. The problem, of course, is that the Ed. does not have a suitable regular feature at his disposal in which to give these details – so I, never being one to abandon poor souls in their hour of need, have jumped magnanimously to his aid. Here, in *my* feature is the promise fulfilled!

Joking aside, though, I am delighted to include the model here as it really is a most impressive masterpiece. Designed and Built by Mr. Charles Roth of Yeoville, Johannesburg, it is based on a Coles 250 ton Mobile Tower Crane and, unless any reader can contradict me, I believe it qualifies as the largest Meccano model ever built outside of a Meccano factory. The outline details supplied to us by Mr. Roth are extremely impressive and, in fact, who better than Mr. Roth to describe the model to our readers?

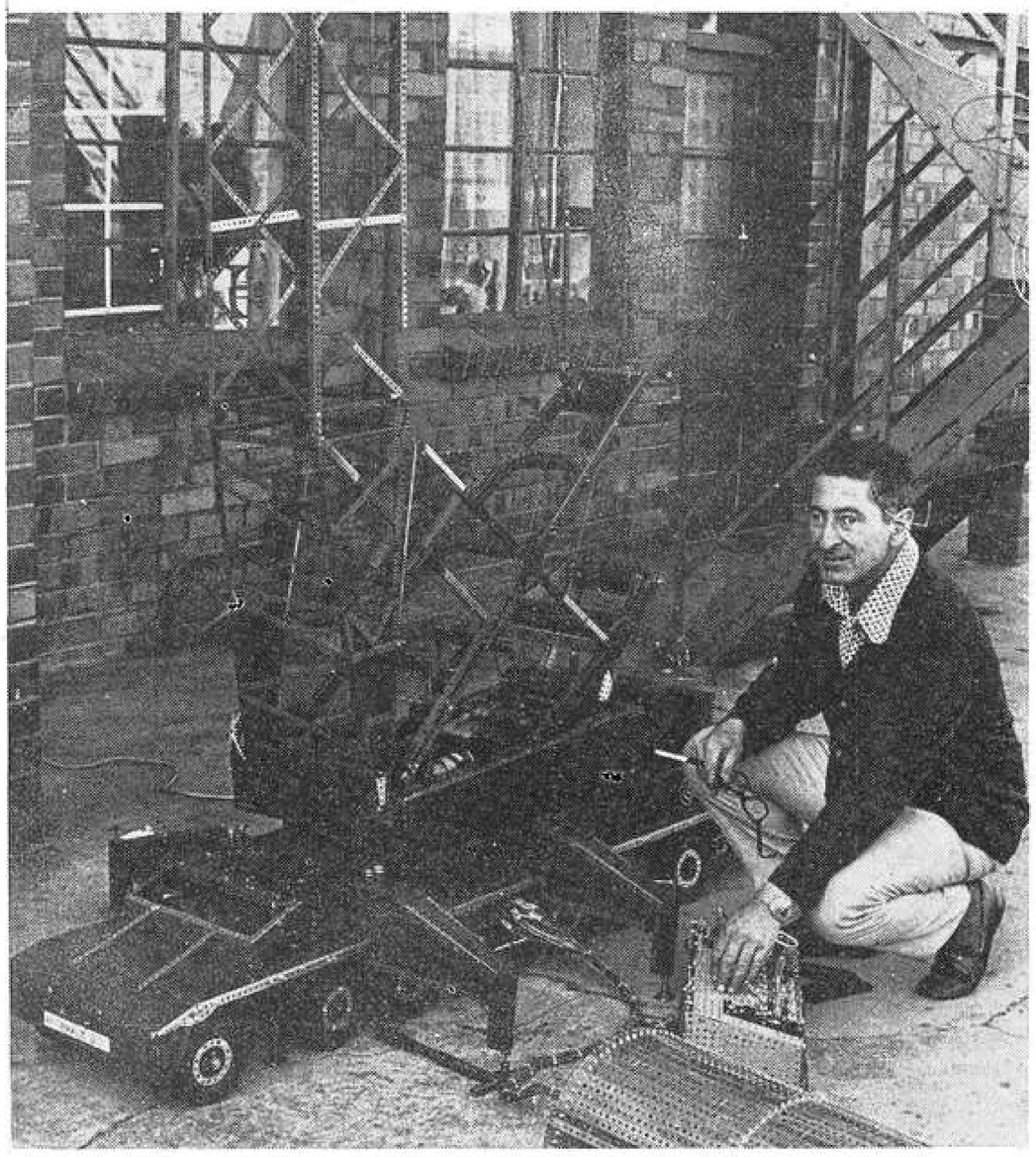
"The model as a whole," he says, "was built in approximately 1500 hours – and it even took 52½ hours to strip down! The chassis was 6' 3" long and stood on twenty-eight 6" ashtray tyres fitted to seven axles, Axles 1 and 2 were steered only; axle 3 was both steered and powered; axles 4 and 5 were powered only; axle 6 was also steered and powered, while axle 7 was steered only. All the driven axles had a 2:1 reduction ratio to the wheels.

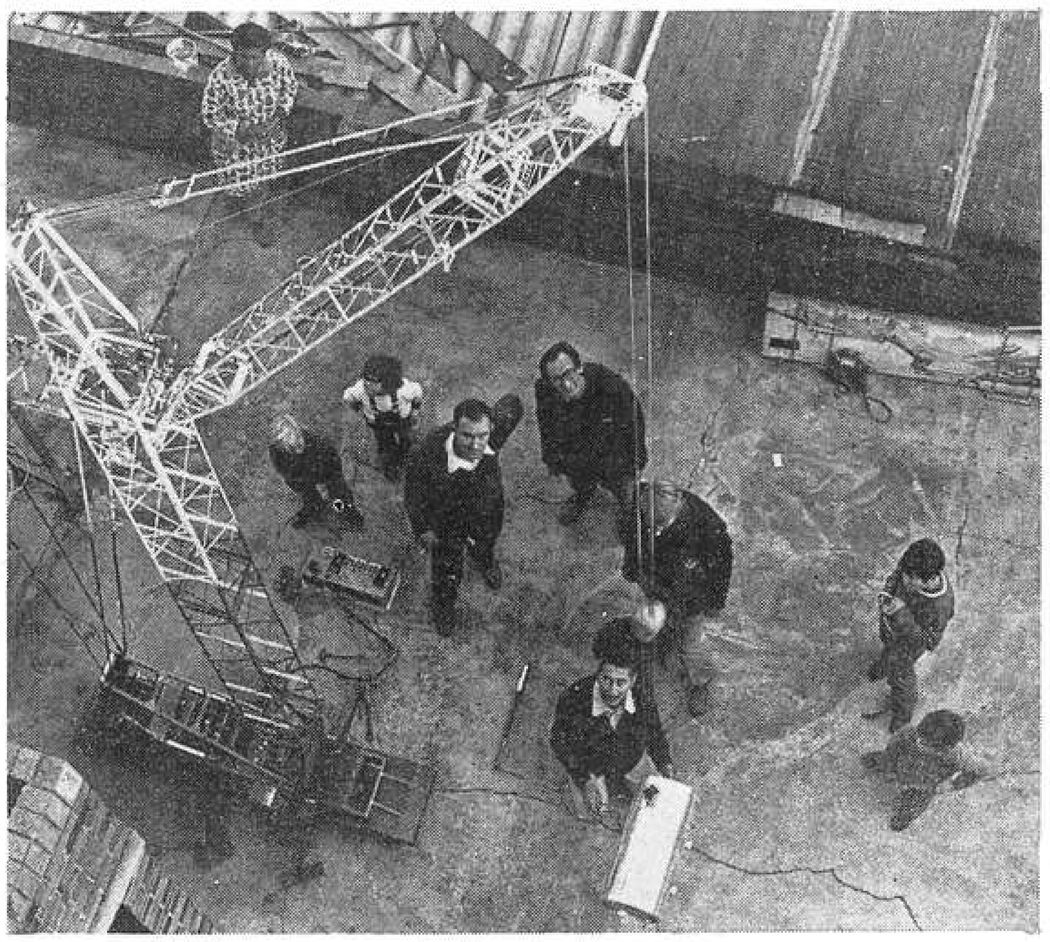
"The motor, fully automatic gearbox and torque convertor rested over axles 1 and 2 behind the driving cab and the drive was taken to a transfer box in the centre of the chassis. From here, the drive was taken from both sides, forward to axles 3 and 4 and backwards to axles 5 and 6. There were eight universal joints and seven spur gear differentials. The steering was power-operated by electric motor.

"The gearbox was developed from ideas seen in the old Meccano Mechanisms Manual and Meccano Magazine and both this and the torque convertor took about four months to develop, being rebuilt three times! Gear change was controlled by a governor which was spring-loaded and was connected to Couplings on both sides of the gearbox. These Couplings held two Fishplates, each fixed by Angle Brackets and arranged to slide between the teeth of Gear Rings, of which there were five, four for forward and one for reverse gear, The motor/torque convertor/gearbox unit was 22" long by 5½" wide and the overall reduction was about 180:1. It did move the model, though very slowly!

"Axles 1, 2 and 7 were fitted with servo-assisted brakes worked from the cab, which in fact accommodated all the controls for the following working features: windscreen wipers (four blades), flashing indicators, twin headlamps, horn, cab lights, roof flashing lights and radiator fan. In addition, the chassis was fitted with four electrically-controlled in-board jacks as well as four pin-on outrigger jacks.

"The turntable – 33" long by 12½" wide – housed the three crane winding drums, made from Boilers



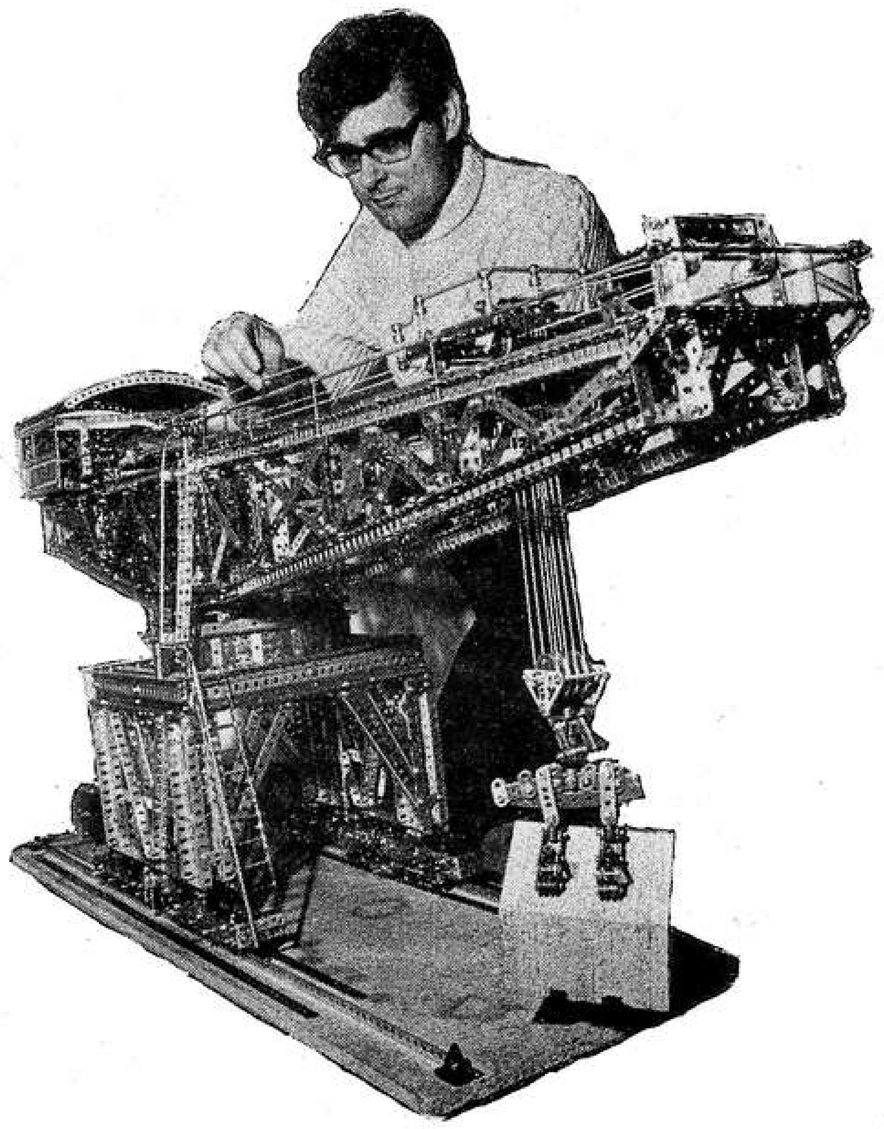


Two views of the giant Coles Lorry-mounted Crane built by Charles Roth of Yeoville, Johannesburg, South Africa – probably the largest Meccano model ever built outside of a Meccano factory. Mr. Roth, himself, appears in the picture, left.

and Circular Plates and all Worm-driven by a separate motor for each drum, The turntable ran on a built-up ball race using 7½" Circular Strips and Circular Plates, with turning motion controlled by a ring of Large-toothed Quadrants, beneath which extra hook rollers were provided. The upper bearing which held the Quadrants was made of three 9 7/8" Circular Girders and used seventeen ¾" Flanged Wheels as rollers. The two bearings were held together by Screwed Rods and the whole arrangement proved to be very solid, easily supporting the *twenty-four-foot high* tower and boom. The hook, which weighed 3½ lbs. was operated by an eight-fall rope which alone was 80 yards long. The counter-weight of 22 lbs. was fixed to an extendable platform at the rear of the turntable.

"A control cabin, built on to the right hand side of the turntable section housed all the crane controls, but a separate control board duplicated all the movements of both the crane and chassis by remote control. All the motors, incidentally, were speed controlled."

Mr. Roth concluded his notes with a summary of some of the statistics applying to his model. To summarise this summary, the chassis was 6' 3" long by 1' 4" wide and the complete model weighed somewhere between 500 and 600 lbs. Ten electric motors were used and the staggering quantity of 26,497 Meccano parts, including nuts and bolts. All in all, a fantastic achievement!



Mr. John Howe of Sheffield and the superb Block-setting Crane with which he obtained a great deal of publicity for the Meccano hobby. This model, and the other Block-setter pictured overleaf, help to prove the unfailing popularity of this type of machine as a subject for advanced Meccano modelling. (Photo reproduced by courtesy of 'The Star', Sheffield.)

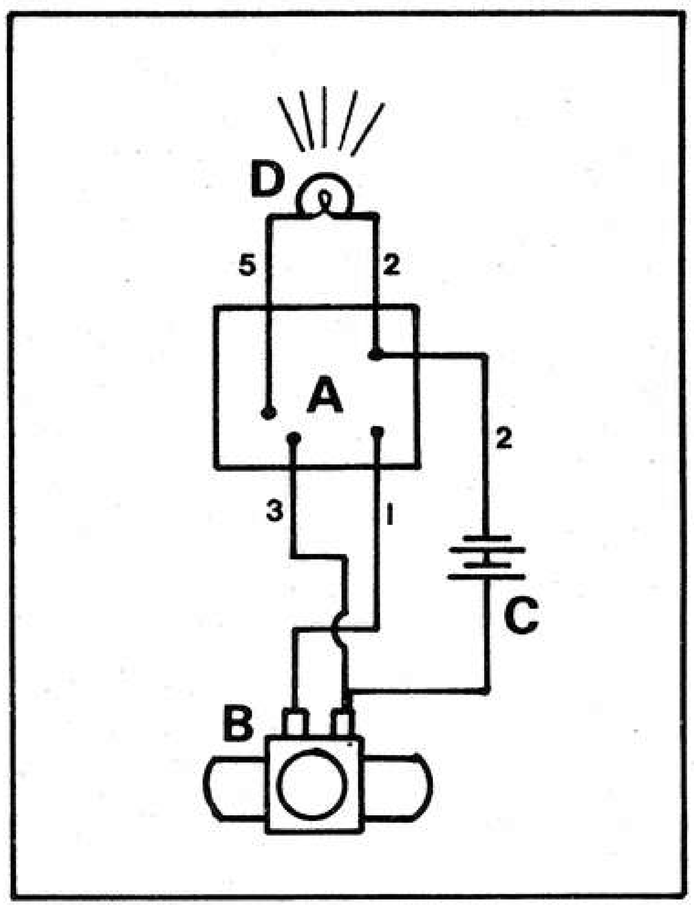
ELECTRONIC METRONOME

Strangely enough, although our second offering is in no way connected with the Mobile Crane, it also follows on from an item in the last MMQ. In "Among the Model-Builders" we featured an Automatic Headlamp Circuit using Electronic Control Set components. This interested 13 year-old Stephen Lang of Stepps, near Glasgow, so much that he built it up to test its effectiveness. Finding it worked as described in the Magazine, he went on to experiment, himself, with modifications to the circuit and soon came up with – wait for it – an Electronic Metronome!

Reproduced here is the circuit diagram for the Metronome, copied from details kindly supplied by Stephen who also has this to say about the practical application of the circuit:

"For operation", says Stephen, "One simply puts the light above the Photo Cell at different levels. The lower the light is put above the Photo Cell the slower the beat (represented both by the "clicks" of the Relay and the flashing of the lamp). As the light is raised higher above the Photo Cell, the faster is the beat (see diagram). It is helpful, "he adds, "To work this circuit in a semi-darkened room, as excess light will interfere with the Photo Cell. It is, of course, best to have the concentrated part of the light beam hitting the Photo Cell," he concludes.

Circuit diagram for an Electronic Metronome designed by Stephen Lang of Stepps, near Glasgow. A = Relay; B = Photo Cell; C = 12 volt D.C. power source; D = Lamp. Numbers indicate Relay sockets to which leads are connected.

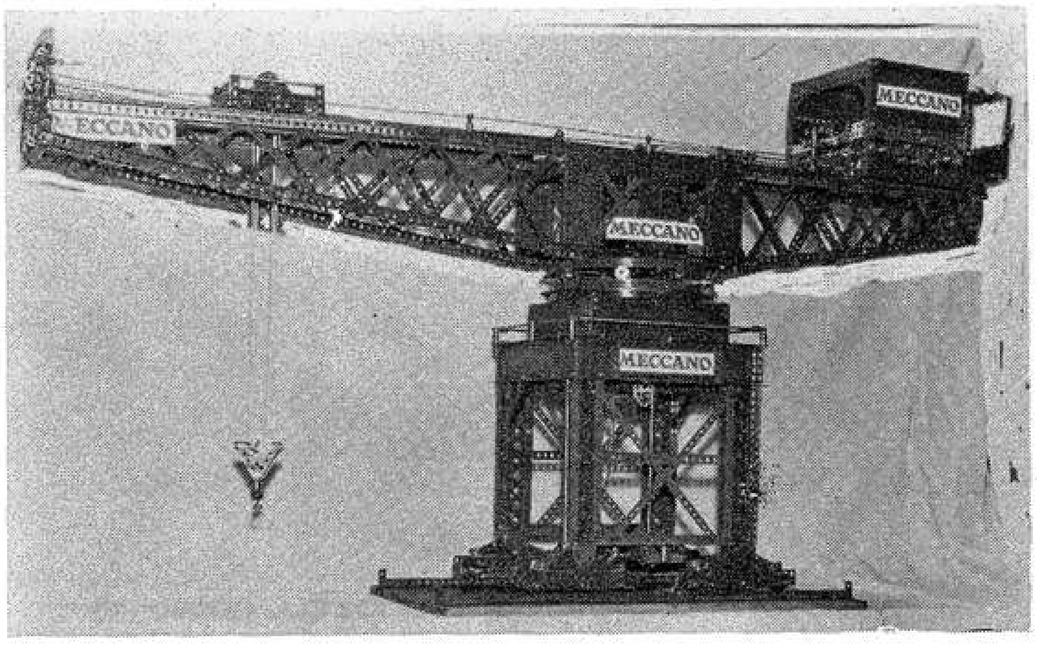


By designing his Metronome, Stephen has exhibited an obvious flair for invention and I think all readers will join with me in congratulating him on his ability. Who knows, perhaps we are looking at the early work of a future electronics genius!

BLOCK-SETTER

On a different subject, but again referring back to the January MMQ, in the centre-pages feature on the Table-top Block-setter we indicated that Block-setting Cranes were very popular subjects with advanced modellers. To illustrate the truth of this statement; in between the feature being accepted for the Magazine and actually appearing in print, no less than three other Giant Block-setters were brought – quite independently – to our attention!

Of course, having already accepted a full constructional feature on the Table-top Block-setter, we could not do much with the later arrivals without being accused of over-playing the subject, but I see no objections to illustrating one or two of them here for general interest purposes. Indeed, some readers may already have seen the first model, as it appeared on B.B.C. Television's "Blue Peter" on 19th December last and it was also displayed for several weeks before Christmas in Redgates, the large →



This version of a Block-setting Crane, built by Mr. N.U. Scargill of Scathorne, Skegness, also achieved a good deal of publicity for the hobby. Less complex than the example pictured on the previous page, it is nonetheless an impressive model which has attracted a lot of local attention.

Meccano Stockists in Sheffield. Based on a Crane of the type used to lay 100-ton concrete blocks for harbour construction, it was built entirely of Meccano Parts (except for the "concrete" block and baseboard) by Mr. John Howe of Sheffield, who also appears in the photograph.

Besides the quality of his model-building, Mr. Howe is also to be congratulated for the excellent publicity he has obtained for the Meccano hobby through his Crane. While it was on display in Redgates, it was seen by somebody from the local newspaper with the result that a large photograph of the model, with accompanying "story" appeared in the Sheffield Star! Our photograph, in fact, is one of the actual shots taken by the newspaper and is reproduced here by kind permission of the Sheffield Star. This was not the end of the story, however. Somebody associated with "Blue Peter" either saw or heard about the item in the paper and Mr. Howe was accordingly asked to show it on television, which he did. A happy chain of events! The model itself, incidentally, is based on plans produced by the Meccanoman's Club of 248 Woolwich Road, Abbey Wood, London SE2 0DW.

Somewhat less complex, but still a very impressive model, is our second Block-setter which is the work of Mr. N.U. Scargill of Seathorne, Skegness. Mr. Scargill also had his model on display in a local dealer's window where it aroused a tremendous amount of interest. "I would never have believed it", said Mr. Scargill. "One chap travelled 40 miles to see it!"

Again among the people it attracted was somebody from Mr. Scargill's local newspaper and, in due course, a photograph and story appeared in the Press. It all shows that a well-built Meccano model is a thing of interest to *all* – not just to Meccano enthusiasts!

MECCANOGRAPH

Continued from page 46.

lock-nutted to one Flat Girder 40, from which of course it should be spaced by Washers to an appropriate height to fit over the frame.

Before mounting the completed unit in place, a Long Threaded Pin is fixed in the centre hole of Semi-circular Plate 9. Fixed on this Pin, one above the other, are two spacing Collars and a ½" Pulley. The table unit is now positioned with the arms provided by Flat Girders 40 simply resting on two 11½" Rods 44 held by Collars in the apex holes of Trunnions 7. Flat Girders 39, however, must locate in the groove of the ½" Pulley on the just-mention Long Threaded Pin – and the fit should be as tight as possible without actually preventing the unit from sliding easily in the grooves. The correct fit can be obtained by making use of the elongated holes in Flat Girders 39 to adjust the distance between them. The centre hole in Narrow Strip 41 locates on the Threaded Pin in Circular Plate 24.

PEN ARM

We come finally to the pen arm, but, before actually describing this, a forward support for the arm is built up from a Face Plate 45 which is attached to end Flat Plate 3 by four Double Brackets. Secured in the boss of the Face Plate is a 4" Rod on which a ½" Pulley 46 is fixed.

The pen arm itself consists of two Girder Frames 47 connected together as shown by two 1" Corner Brackets. Bolted to one of the Corner Brackets is a 15" compound strip (built up from one 9½" and one 7½" Strip), to which a Crank 47 is bolted, the boss of the Crank coinciding with the nineteenth hole of the Strip. The drawing implement – in our case, a ball point pen refill – is fixed in the boss of the Crank. With the pen arm in position, the Rod in the boss of Face Plate 45 locates in the gap between the two Girder Frames, which themselves rest on the face of Pulley 46.

PATTERN VARIATIONS

As will be appreciated with a model with no less than three eccentric mechanisms, the pattern variations it is possible to achieve are virtually unlimited. As already mentioned, the primary movement of the pen arm is controlled by the centre eccentric unit and varying the position of the centre Coupling in the unit will vary the pattern. In addition, the unit as a whole is mobile, sliding backwards and forwards on its supporting rails under the motion of "Bumper Wheel" 19. One or more 3/8" Bolts fixed in the Bumper Wheel press against Strip 18 as the wheel revolves and varying the quantity and positions of these Bolts alters the design of the pattern. The Strip is held in contact with the wheel by the action of a Driving Band attached to the Strip and looped over 1 1/8" Bolt held by Nuts in nearby "U"-section girder 1. The model will of course operate without overall movement of the centre unit, in which case all the Bolts are simply removed from the Bumper Wheel so that there is nothing to act against Strip 18.

The third eccentric unit, supplied by Circular Plate 24, controls movement of the drawing table and, here again, changing the position of the Threaded Pin in the Plate will alter the design of the pattern being drawn. Thus, not only will the design of the pattern be altered by adjustments to any one of the three eccentric units, taken individually, but an infinitely greater number of variations will result from "cross perming" adjustments to any two or all three of the wheels together. All these variations can be further altered by removing 3½" Gear Wheel 32 and re-positioning Pinion 30 to mesh directly with Gear Wheel 33 alongside it. Talk about unlimited possibilities!

MECCANO® AT BEATTIES

-WE STOCK EVERY SPARE THAT MECCANO MAKE!

Standard sets, Conversion sets, Special sets, Clock kits and Multikit — you will find everything you may require at your local Beatties branch, and as we have an extensive secondhand department you may well find just that obsolete item for which you have been searching. So, whatever your Meccano needs — look into your Beatties branch FIRST!

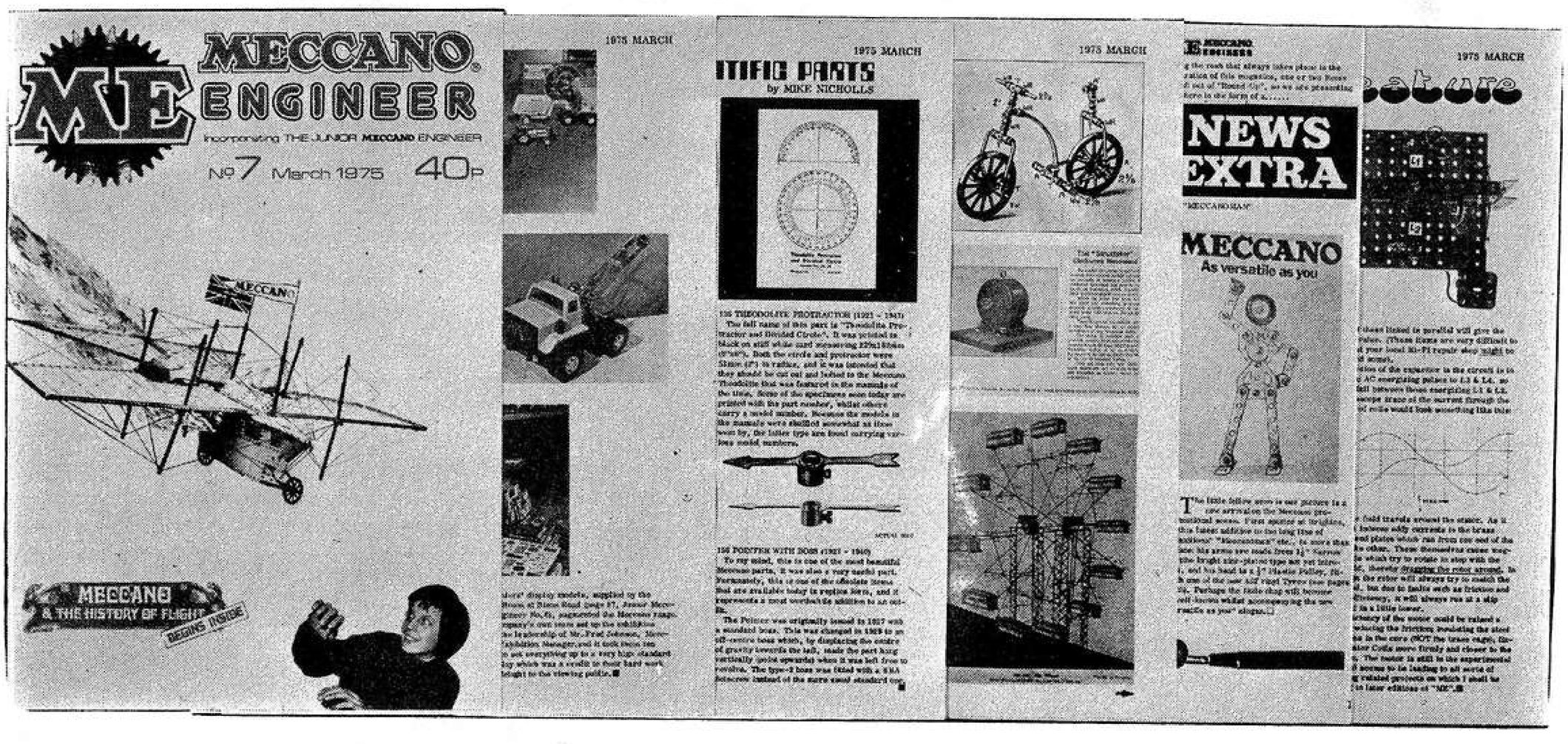
BEATTIES EUROPE'S LEADING MODEL SHOPS

Retail Branches:
112 High Holborn London WC1V 6JS 01-405 6285/8592
10 The Broadway Southgate London N14 6PN 01-886 4258
363 Lewisham High St. London SE13 01-690 5885
16/18 King Charles St. Leeds LS1 6LT 0532-456611
3 Mount Street Nottingham NG1 6JW 0602-411693
36/37 Dawson Way St. Johns Centre Liverpool 2 051-709 0799

Mail Order Department:
10 The Broadway Southgate London N14 6PN

14 Spring Gardens, Manchester M2 1EE 061-834 0229
26 South Mall Birmingham Shopping Centre,
Birmingham B2 4XD 021-643 8604

ANNOUNCING — A NEW MAGAZINE FOR THE MECCANO ENTHUSIAST



MECCANO® ENGINEER

WITH issue No.7, the "Junior Meccano Engineer becomes the "Meccano Engineer". For some time, the producers of the "JME" have realized that the content of the magazine was of interest to adults as well as juniors. After much discussion, it was decided to alter the title of the magazine to reflect the contents more accurately. The resulting "MECCANO ENGINEER" is a magazine for everyone, but it is not just a "JME" with a different name; the opportunity has been taken to re-think the entire production, and to shape what we think is a much improved journal.

One thing that we can promise you has been retained from the "JME" is our friendly approach and lively style. We have added many new features that will be of interest to constructor, collector and historian alike, whatever his or her age. In other words, we have produced a magazine for all Meccano enthusiasts.

The first edition of "ME" (which carries the number 7, to continue the sequence from "JME") has no less than 40 pages printed on finest quality art paper. There are eleven line drawings and diagrams, twenty pictures reproduced from other literature (old MMs etc), and no less than seventy photographs!

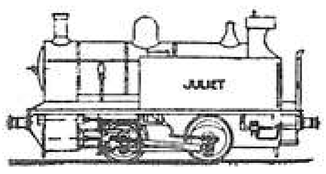
Special features in No. 7 include an exclusive report on the Meccano Exhibition in the Daily Mirror building, a "scientific article" on a new built-up Meccano Motor, surveys of the French version of the Multikit, and Structator (an early imitator of Meccano); plus a mechanism for running the No. 2 clock from one weight, and a complete illustrated report of the new Meccano products shown at the Brighton Toy Fair.

Don't miss out on this important new feature of the Meccano hobby, ORDER YOUR COPY NOW!

40p + 10p postage.

WE THINK YOU'LL LIKE OUR STYLE!

Single copies or subscriptions available from the distributors:
M. W. MODELS, 165, Reading Road, Henley-on-Thames, Oxon., RG9 1DP.



CHARLES COVEY (MODELS)

Specialist in

Gauge '0'

Now has MECCANO Spares in stock new and second-hand. Also many of the obsolete parts.

Also

Hornby type wheel castings, Buffer, 24 volt bulbs. etc.

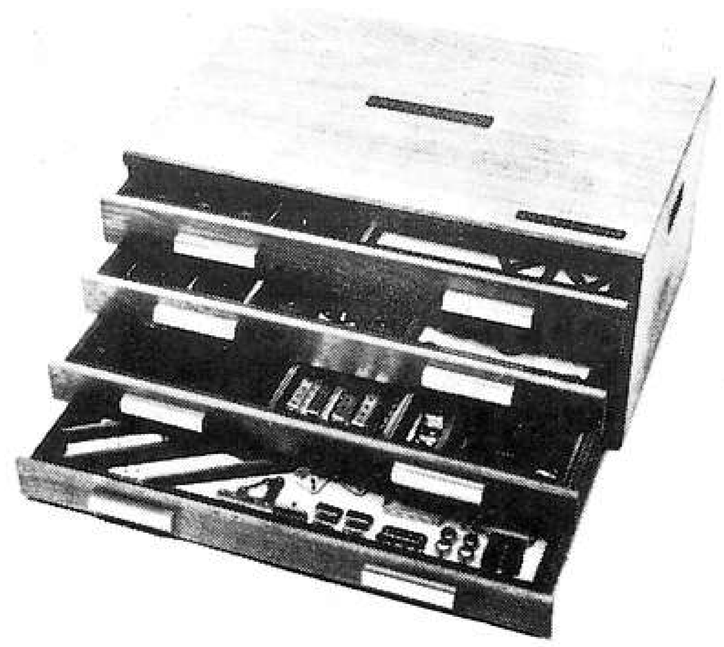
For full list of 'O' parts, please send large S.A.E. for free list.

OPEN

Tuesday – Friday 10 a.m. to 6 p.m.
and most Saturday mornings.

2b Kings Grove, Peckham, SE15.
Telephone: 01-639 3411.

THE CHRISTMAS PRESENT OF A LIFETIME....



...FOR A LIFETIME!

MECCANO No. 10 OUTFIT
in FOUR DRAWER
OAK FINISH CABINET £182.25
Sent anywhere in U.K. CARRIAGE FREE.
Posted overseas without cabinet
at special rates & free of U.K. V.A.Tax

M.W. MODELS

165 Reading Road, Henley-on-Thames, Oxon,
RG9 1DP. England. **Tel: (04912) 3342.**
Access & Barclaycard give up to 14 months to pay!

MW models for MECCANO

STANDARD SETS

POCKET SET	0.70
No. 1 SET	2.25
No. 2 SET	3.55
No. 3 SET	4.90
No. 4 SET	6.50
No. 5 SET	9.75
No. 6 SET	13.15
No. 7 SET	16.25
No. 8 SET	19.95
No. 9 SET	43.50
No. 10 SET	182.25

CONVERSION SETS

1x	1.50
2x	1.55
3x	2.10
4x	3.85
5x	4.05
6x	3.85
7x	5.40
8x	14.80

SPECIAL SETS

No. 3M	7.95
No. 4M	10.90
No. 4EL	18.30
No. 5ME	24.50
GEARS SET	3.65
ELECTRONICS CONTROL	7.80
MECHANISMS SET	6.25
SUPER TOOL SET	2.20

CLOCK KITS

No. 1 CLOCK KIT	5.90
No. 2 CLOCK KIT	11.75

MULTIKIT

HIGHWAY MULTIKIT	7.00
ARMY MULTIKIT	7.90
SUPER HIGHWAY	10.40
COMBAT	4.50

ANY SET SENT
POST FREE
(Overseas, postage extra, but V.A. Tax free)

M.W.models

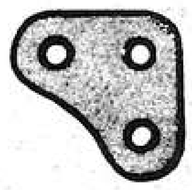
165 Reading Road, Henley-on-Thames,
Oxon, RG9 1DP. Tel: (04912) 3342
Open Monday to Saturday, early closing Wednesday

MECCANO SPECIALIST DIRECTORY

HENLEY (049 12) 3342

M. W. MODELS
"EVERYTHING MECCANO"
165 Reading Road,
HENLEY-ON-THAMES
Oxon RG9 1DP.
Retail and world wide mail order

All Dealers appearing in this section specialise in supplying Meccano equipment.

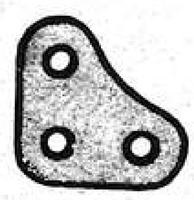


WELWYN 26884

H. A. BLUNT & SONS LTD.
38 FRETHERNE ROAD,
WELWYN GARDEN CITY, HERTS.
Complete range of model aircraft, engines and accessories, boats, cars and railways.

LONDON 01-734 1846

JEREMY
16 Princes Arcade,
Jermyn Street, London S.W.1
MECCANO specialist in sets, accessories and spare parts.



NEW ZEALAND

BUNKERS LTD.,
P.O. BOX 58
HASTINGS.
Mail orders from all countries welcomed

LONDON Tel: 01-959 2877

H. A. BLUNT & SONS LTD.,
133, The Broadway,
Mill Hill,
LONDON N.W.7 4RN

PORTHMADOG 2802

SIOP MADOC
41 High Street, Porthmadog, Caerns.
MECCANO
and OO/HO Model Railway specialists.

WEST AUSTRALIA

JACK STANBRIDGE'S
"Hobbyshop",
19 Guildford Road, (at subway),
Mount Lawley, (Perth),
Western Australia.
Full range MECCANO Sets.
Spare Parts available.

CLASSIFIED ADVERTISEMENTS

Rates charged in this section are as follows: Private, 2p per word; Trade, 3p per word. Please send advertisements, with remittance, to: Meccano Magazine Quarterly, Classified Ads., P.O. Box No. 4, Binns Road., Liverpool L13 1DA.

FOR SALE: 1948/53 Manuals; No. 6 – £4.00, No. 7/8 – £5.00. Also, 1962/9 Manuals; No. 7/8 – £1.00, 4/5/6 – 80p, 1, 2/3 – 50p. "Development of Meccano System" – £2.00. All books in perfect condition, and post free. Send to: P. Maguire, Mullaghadum, Monaghan, Eire.

FOR SALE: Bound volumes Meccano Magazine 1924 – 1932; four covers slightly damaged by damp. £140 or offers, plus postage. K.T.H. Langton, 3 St. Alphage Court, Colindeep Lane, Colindale, London NW9 6BH.

FOR SALE: Meccano Magazines 1961 to 1967, 1970 to 1972. 1959, 1956 Model Leaflets. Most good condition. Offers. Purnes, 23 Rock Road, Dursley, Gloucester.

LARGE QUANTITY Meccano parts for sale approx. half price. Send S.A.E. for lists. Harrison, 12 Willow Walk, Canewdon, Essex.

FOR SALE: Complete volumes of Meccano Magazine 1962-66 inclusive. Also: 1967, August – December inclusive; 1968, January – November inclusive. All in new condition. Offers please to:– R.B. Bennett, 53 Sandy Lane, Tettenhall, Wolverhampton WV6 9EB.

FOR SALE: Meccano No. 5, Circa 1913, in good condition, together with No. 2 Motor and Instructions, Offers. Further particulars on request. Apply in writing to W.J.C. Scott, 42 Stocksfield Avenue, Newcastle-upon-Tyne 5.

DAVE STAUGHTON, 217A Stanton Street, Kenilworth, Johannesburg 2001, South Africa, requires Dinky Toys between 1950-1965, Solido and other Diecasts. Have few rare Dinkys assembled in South Africa and many others. Will only swop. Send to the above address for lists of wants and swaps.

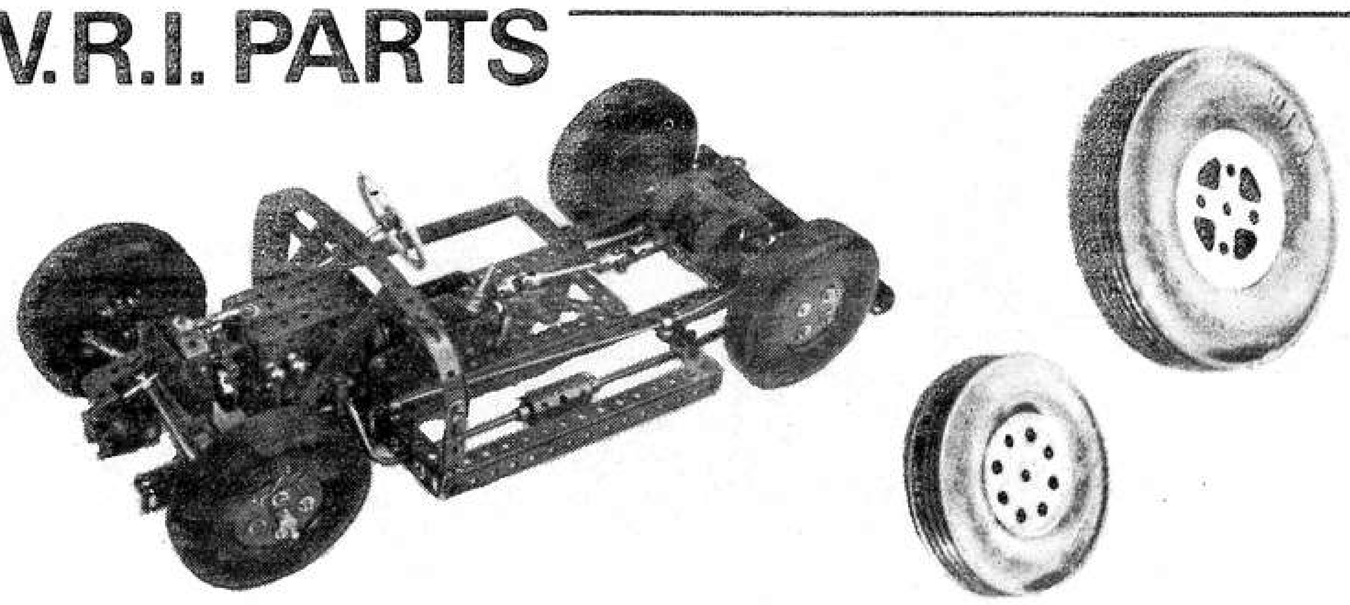
WANTED. Magic Motor, aluminium sprayed finish, circa 1970, in original box. Will pay up to £5, relative to condition. Details to: Burrows, 40A Braeside Grove, Belfast BT5 7JX.

WANTED: Hobbies fretwork designs and Hobbies Handbook British fretwork design. Will pay good price if anyone can help. Year of handbook does not matter, but the older the better. Write to Mr. Emile Amirault, Box 201, Edam, Sask. Canada 5OM OVO.

WANTED. 1964/65 Nos. 3, 4 or 5 yellow/black/aluminium/nickel Meccano Set in original sleeve-type box. I will pay up to £20 for any of the above sets, relative to condition. Details to: Burrows, 40A Braeside Grove, Belfast BT5 7JX.

WANTED: Instruction Manual Circa 1930 for 00 to 6/7 sets. Corden, 278 Ilford Lane, Tuckton, Bournemouth. Tel. Bournemouth 49154.

W.R.I. PARTS

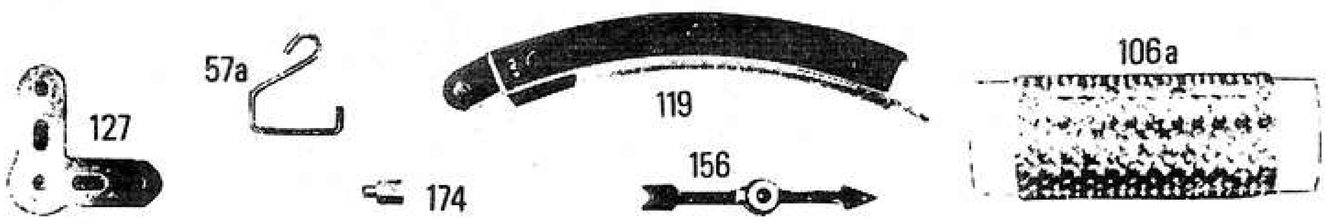


Increase the scope of your Meccano Modelling activities by the use of W.R.I. tyres and Replica Obsolete Meccano Parts.

P/N 142m, 4" diam. Tyre	$1.25 ea.	P/N 142s, 3" diam. Tyre	80¢ ea.
P/N 57a, Scientific Hook	25¢ ea.	P/N 106a, Sand Roller	$2.00 ea.
P/N 119, Channel Segment	$1.00 ea.	P/N 127, Simple Bell Crank	30¢ ea.
P/N 156, Pointer	75¢ ea.	P/N 174, Grease Cup	60¢ ea.

All prices in Australian Currency, Postage extra.

Obtainable from certain specialized Meccano Spare Parts stockists or direct from W. R. Inglis, 219 Blackburn Road, South Blackburn, Victoria, 3130, Australia.



FOURTH ANNUAL
MECCANO EXHIBITION

TOWN HALL HENLEY-ON-THAMES

Friday & Saturday 10 a.m. – 6 p.m.

29th & 30th August

Admission:	Adults:	Friday 25p.	Saturday 10p.
Exhibitors Free	Children:	Friday 10p.	Saturday 5p.

Friday will be a special enthusiasts' day when readers of the MMQ, club members, Meccano model builders generally, and their families are invited to meet each other and display their work. On Saturday the Exhibition will also open to the general public. There will also be competitions for modellers to enter.
See Ad. on page 49 of this issue for further details.

MECCANO MAGAZINE QUARTERLY

ANNUAL SUBSCRIPTION RATES

Surface Mail: throughout U.K. and World – £1.20.
Air Mail: Australia, New Zealand – £2.75 Sterling; Canada, South Africa, U.S.A., Argentina – £2.40 Sterling; Malta – £2.15 Sterling. Rates for other countries available upon application.

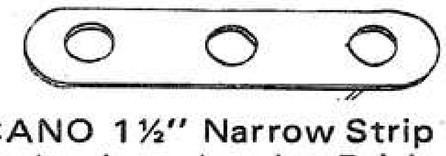
Where possible, currency conversions into Sterling should be arranged by the subscriber before submitting his or her subscription order. Subscription orders should be addressed to: Meccano Magazine Quarterly, Subscription Dept., P.O. Box No. 4, Binns Rd., Liverpool L13 1DA. Cheques and Postal Orders should be crossed and made payable to Meccano Limited.

EVERYTHING MECCANO®

SETS – SPARE PARTS – MOTORS
MODEL BUILDING LITERATURE

RETAIL AND WORLD WIDE MAIL ORDER

NEW



MECCANO 1½" Narrow Strip special pre-production batch Bright Zinc Plated 4p. each (post extra).

NEW

COMBAT MULTIKIT
available now – £4.50. Sent Post Free (U.K. only).

NEW

"MECCANO ENGINEER"
Quarterly Magazine – March 1975 40p. + 10p. post.

"HISTORY OF MODEL AND MINIATURE RAILWAYS"
Issue with Meccano Locomotive article 30p. + 10p. post.

NEW MECCANOMAN'S CLUB PUBLICATIONS
"Meccano and Mathematics" £1 + 8p. post.

MECCANOMAN'S JOURNAL (quarterly)
April 1975. 38p + 8p. post.

"SUPERMODEL LEAFLETS"
No. 53 Foliot Verge Clock 55p. + 8p. post.
No. 54 Remote Controlled Dockside Crane £1 + 8p. post.

MAGAZINE SUBSCRIPTIONS

"THE MECCANO ENGINEER"
"MECCANO MAGAZINE QUARTERLY"
"MECCANOMAN'S JOURNAL"
GMM SUPERMODEL LEAFLETS
M W NEWSLETTER AND LISTS

We can send any of the above on a regular basis. Just send us, say, £1 stating with which magazine(s) and issue you wish to start. Full Back Number service available.

For April Newsletter and lists of "EVERYTHING MECCANO" send:
HOME: Large (9") 8p S.A.E.
OVERSEAS: (Sent by Air)
EUROPE: 20p.
AMERICA & SOUTH AFRICA 24p.
AUSTRALIA: 29p.
Reply Coupons are worth 8p. each.

Overseas orders sent V.A. Tax free

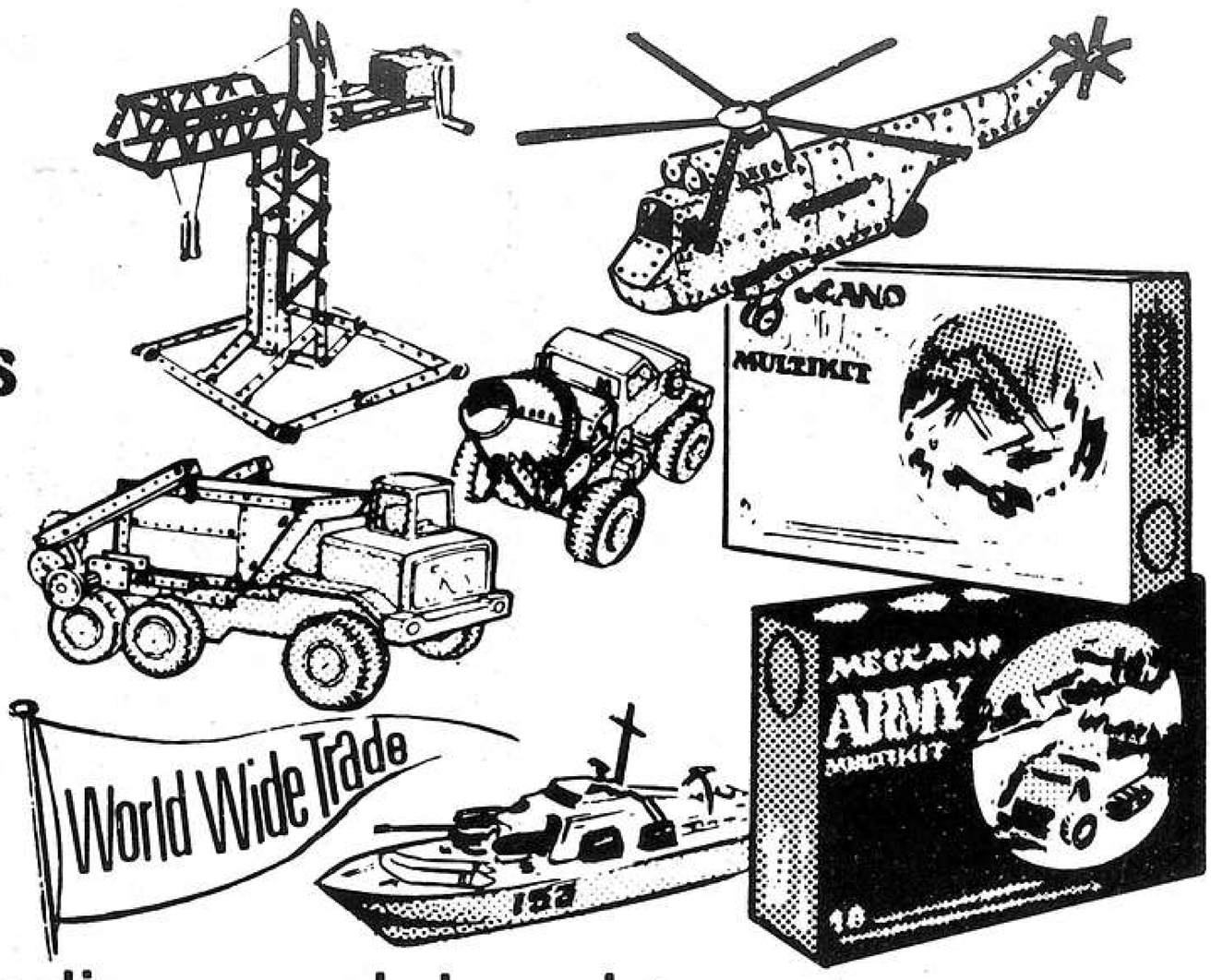
Access & Barclaycard welcome – Just 'Phone Your Order!
Post Office Giro A/C No. **25 422 4008**

M.W. MODELS, 165, Reading Road, Henley-on-Thames, Oxon, RG9 1DP. England. Tel: Henley (049-12) 3342.

HOBBIES

for everything the model maker requires

There's no doubt about it. For model railway and Meccano enthusiasts, a visit to our showroom is an exciting event. Full range of Meccano spare parts always in stock



Liverpool's leading model and toy store

Lucas's **HOBBIES** Ltd.

7/9 Tarleton St. Liverpool L1 1DS
(off Church St.) 051-709 7562

Bagnall

THE BIG NAME IN MECCANO

WE STOCK	MECCANO	SETS	Nos. 1 – 10
	MECCANO	SPARES	FULL RANGE
	MECCANO	MOTORS	ALL SIZES
	MECCANO	CONVERSION SETS	1X – 8X
	MECCANO	SPECIAL SETS – Inc. GEARS & ELECTRONICS	
	MECCANO	PLASTIC SETS AND CONVERSIONS	
WE SELL	MECCANO	ALL OVER THE WORLD.	
	MECCANO	BY ACCESS & BARCLAYCARD	
	MECCANO	BY MAIL ORDER.	
	MECCANO	TO SCHOOL AND INDUSTRY.	

P.&P. FREE OVER £5 (U.K. Only). SHOP CLOSED ALL DAY WEDNESDAY. PUBLIC CAR PARK AT REAR OF SHOP.

John W Bagnall Ltd
18 Salter Street
Stafford Tel 3420

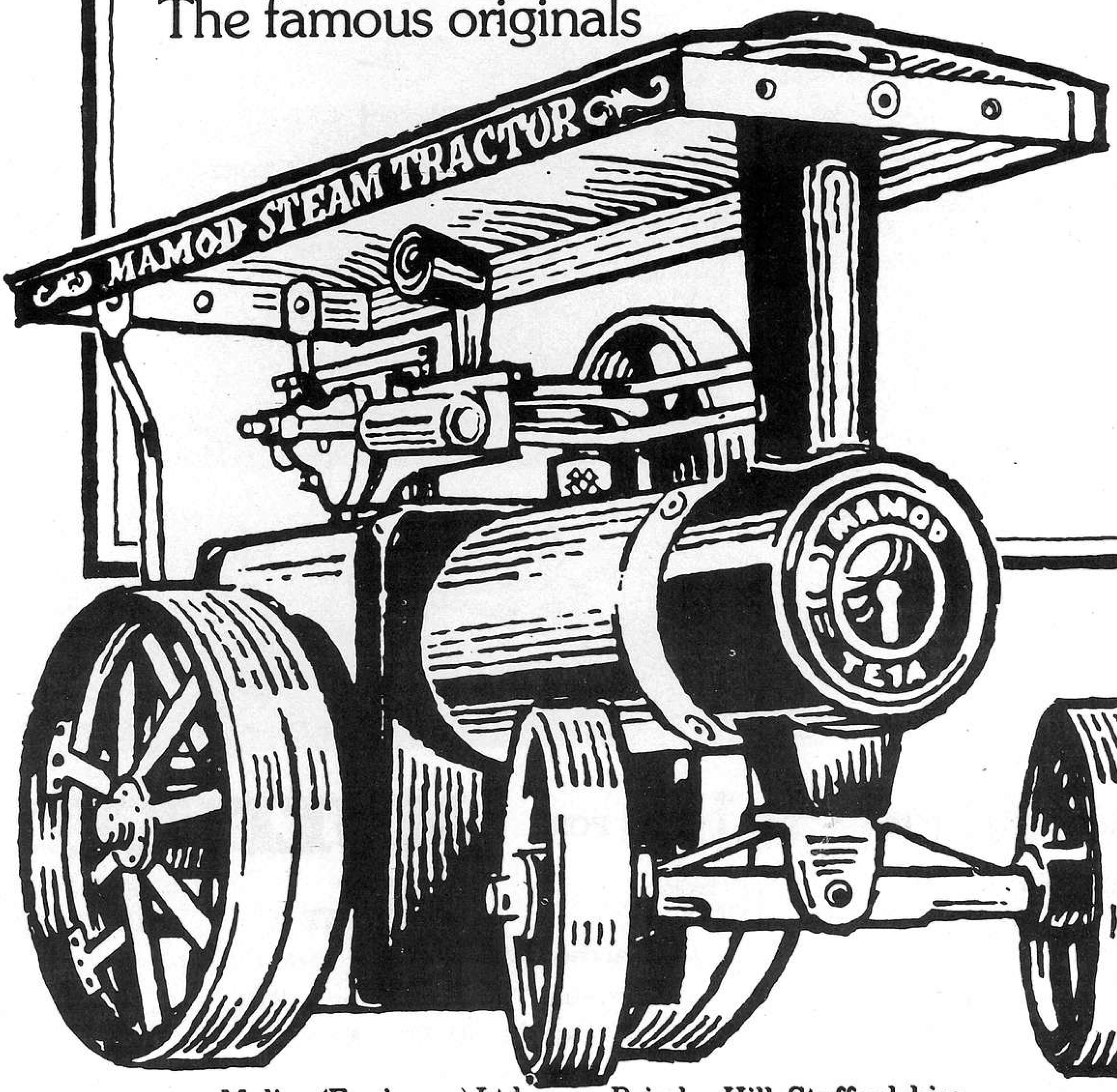
Famous Mamod traction engines, steam rollers, steam wagons and accessories are more than precise, durable working toys.

They're fun models boys of all ages get really steamed up about.

And still surprisingly inexpensive at all leading toy shops.

Mamod

The famous originals



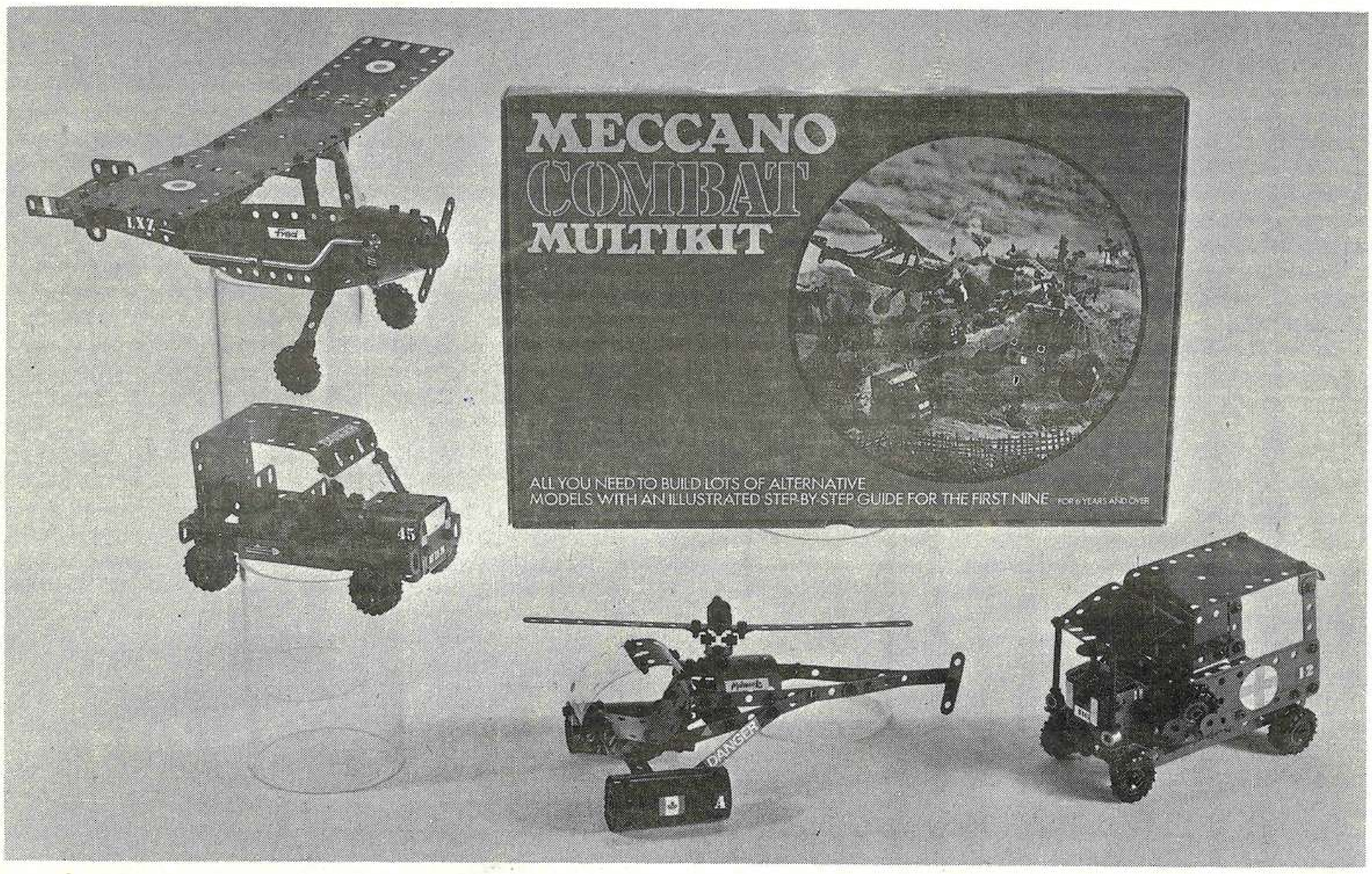
Malins (Engineers) Ltd., Brierley Hill, Staffordshire.

MULTIKIT® TAKES THE ACTION A STAGE FURTHER * WITH THE NEW 3~IN~1 ✲ COMBAT MULTIKIT®

1 BOUGHT ON ITS OWN, it builds hundreds of "New Generation" Meccano Models. Instructions are included for the first nine.

2 BOUGHT AS AN ACCESSORY SET for your Army Multikit, it greatly increases your scope.

3 BOUGHT WITH AN ARMY MULTIKIT, it goes to make a "Super Army Multikit".


MECCANO
COMBAT
MULTIKIT
ALL YOU NEED TO BUILD LOTS OF ALTERNATIVE MODELS WITH AN ILLUSTRATED STEP-BY-STEP GUIDE FOR THE FIRST NINE

M.W. models FOR MULTIKIT®

HIGHWAY MULTIKIT

SUPER HIGHWAY MULTIKIT

ARMY MULTIKIT

COMBAT MULTIKIT

All sets POST FREE (UK) Access and Barclaycard welcome — just 'PHONE your order!

MW models, 165, Reading Rd., Henley-on-Thames, Oxon., RG9 1DP, England.
Telephone Henley-on-Thames 3342 (STD code 04912) Send SAE for free lists.

Published and printed by Meccano Limited, Binns Road, Liverpool, L13 1DA, England

MECCANO